Microsoft tries to lure iSeries users to switch to Windows, but that's looking like a hard sell. PAGE 5

The new breed of architected rapid application development tools is "like having Bangalore in a box," says one user. PAGE 26

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JANUARY 10, 2005 VOL. 39 NO. 2 $5 COPY

Companies Simplify Data Privacy Notices

P&G, Microsoft are in forefront of move to make Web site disclosures more user-friendly

BY JAIKUMAR VIJAYAN

A European Union initiative to develop standards for shorter and more readable data-privacy notices on Web sites is shining a spotlight on a similar need in the U.S., and large companies such as Microsoft Corp. and The Procter & Gamble Co. are already adopting the condensed format.

MORE INFO

Read the EU's "Opinion on More Harmonized Information Provisions" and view appendices with examples of different data privacy notices: QuickLink a5290

On its corporate Web site, P&G has created a "privacy notice highlights" page that uses a modular format identical to the one approved by an EU panel in late November. The modular approach lets companies provide Web site visitors with capsule descriptions of their privacy policies as the initial step in the disclosure process.

Sandy Hughes, P&G's global privacy executive, said last week that the Cincinnati-based maker of consumer goods set up the new page after a survey of users who visited the Web site showed that 95% of them found shorter data privacy notices helpful.

The information on the

Privacy, page 14

Users Lobby for OneWorld

Oracle pressed for continued support of J.D. Edwards apps

BY MARC L. SONGINI

Several PeopleSoft users last week urged Oracle Corp. to extend support for the OneWorld XE line of applications developed by the former J.D. Edwards & Co.

Prior to its acquisition by Oracle, which was completed on Friday, PeopleSoft Inc. had said it would halt support for OneWorld XE on Feb. 28. Oracle officials declined to discuss the request for continued support last week.

Since Oracle gained a majority of PeopleSoft shares last month [QuickLink 51518], its executives have been quietly meeting to decide how to execute the merger and handle customer petitions.

A half-dozen users interviewed last week said Oracle could gain goodwill with customers by granting some wish-list requests. In particular, five users urged Oracle to extend support for OneWorld XE, which is now part of the PeopleSoft EnterpriseOne suite, beyond next month.

ONLINE

For more on Oracle's merger with PeopleSoft QuickLink a3320

"This would be a first good step, showing the old J.D. Edwards side of the house Oracle does

OneWorld, page 47

Bungled ERP Installation Whacks Asyst

Flaws at Japan venture cause financial fallout

BY MARC L. SONGINI

A troubled ERP installation at a joint venture in Japan has forced Asyst Technologies Inc. to restate earnings and spend up to $2 million for damage control. The semiconductor automation products maker also faces a possible delisting from the Nasdaq Stock Market.

The ERP problems came to light when Fremont, Calif.-based Asyst announced its fiscal second-quarter results on Dec. 20, seven weeks later than planned.

Company spokesman John Swenson said the delay was largely the result of a bungled

Asyst, page 47

ADDITIONAL COVERAGE

MOBILE COMPUTING'S

Energy Crisis

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NEWSPAPER


Make a name for yourself
with Windows Server System.
Windows
Server System

Microsoft

Your potential. Our passion.™

"Instead of putting out fires, we now focus on ways we can deploy new technologies that benefit our customer service."

Dave Chacon
Manager, Technical Services, *PING*

Microsoft Windows Server System makes it easier for golf club maker PING to manage the infrastructure serving their 400 end users. Here's how: By using Windows Server 2003 with Active Directory,® PING now centrally manages all its servers, desktops, and end users from one location. This cut annual administrative time by 800 hours. Time that can now be spent developing new ways to support customers, partners, and employees. Software that's easier to manage is software that helps you do more with less. Get the full PING story at **microsoft.com/wssystem**

Windows Server System™ includes	
Server OS	Windows Server™
Operations Infrastructure	Systems Management Server
	Operations Manager
	Internet Security & Acceleration Server
	Windows® Storage Server
Application Infrastructure	SQL Server™
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In the Technology section: Hewlett-Packard researchers are studying e-mail traffic patterns to uncover hidden communities of experts that can be tapped to make smarter decisions and more accurate business predictions. **Page 26**

Leading Change

In the Management section: Change is disruptive and makes people uncomfortable, but it's essential to survival. Here are 12 tips to help you guide your business from where it is to where it needs to be. **Page 33**

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WWW.COMPUTERWORLD.COM

SOURCE: COMPUTERWORLD.COM NONSCIENTIFIC SURVEY, 240 VOTES

Snapshots Undo Virus Damage

STORAGE: A county sheriff's office in Massachusetts nabs the right data-protection technology. **QuickLink 51720**

Collective Amnesia

DEVELOPMENT: Columnist Linda Hayes wonders if the demotion of process and quality is a mistake each generation must make in order to learn how to do things right. **QuickLink 51648**

Become a 'Passive Job Seeker'

CAREERS: Even if you're happy in your current job, anticipating future opportunities can open doors for you later, says Korn/Ferry's Robert Fong. **QuickLink 51437**

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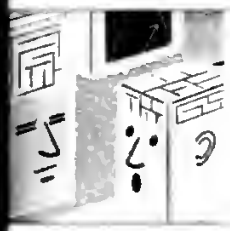

FUTURE WATCH

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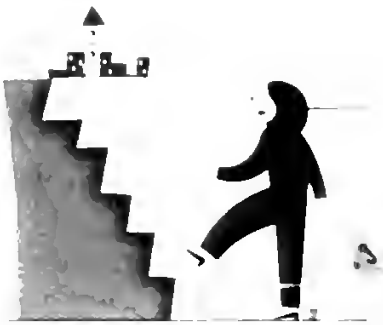

Leading Change

In the Management section: Change is disruptive and makes people uncomfortable, but it's essential to survival. Here are 12 tips to help you guide your business from where it is to where it needs to be. Page 33

ONLINE

WWW.COMPUTERWORLD.COM

QuickPoll Results

How will the recent spate of IT vendor mergers affect users?

Take this week's QuickPoll at www.computerworld.com

Snapshots Undo Virus Damage

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Collective Amnesia

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Knowledge Centers
QuickLink a2570

The Online Store
QuickLink a2420

AT DEADLINE

IBM Purchases CIA-backed Firm

IBM last week acquired Systems Research & Development Inc., a Las Vegas-based maker of identity resolution technology. IBM will integrate SRD's software into its business intelligence and information management products. SRD's backing includes the venture arm of the CIA [QuickLink 26015]. SRD software is used in retail theft loss prevention and employee screening.

McData to Add 256-Port Switch

McData Corp. this month plans to announce a new director-class switch that will feature 256 ports, the most contained in a single unified box, sources said. McData's I-10K switch is the result of its $102 million acquisition in 2003 of Sanera Systems Inc., which provided the high-end DS10000 core director, multiprotocol switch.

Mozilla, Firefox Flaws Revealed

Users of the open-source Mozilla and Firefox browsers and the Thunderbird e-mail client may be vulnerable to flaws that could allow an attacker to spy on or take over a system. The most serious bug affects all versions of Mozilla earlier than 1.7.5 and could result in a system crash or the execution of malicious code, security experts said last week. Firefox and Thunderbird face less-serious problems.

Business Objects Gets Day in Court

A federal appeals court ruled late last week that a trial can be held to determine whether MicroStrategy Inc. infringed a Business Objects SA patent on a relational database access system. The decision by the U.S. Court of Appeals for the Federal Circuit overturns an August 2003 summary judgment by a federal court in California.

Microsoft Gives Users More Security Options

Releases beta tool for fighting spyware, free utility for removing malicious code

BY JAIKUMAR VIJAYAN

MICROSOFT Corp.'s release last week of two security tools designed to help users get rid of spyware and other malicious code is a long overdue move from a company whose software is the biggest target of viruses and other attacks, IT managers and analysts said.

The release of the tools also puts Microsoft one step closer to directly competing with pure-play vendors of security software, they added.

Microsoft made available a free beta version of Windows AntiSpyware, which is based on technology acquired through its purchase of New York-based Giant Company Software Inc. last month [QuickLink 51521]. In addition, Microsoft is offering a tool for removing worms, viruses and other malicious code from PCs. That product is built around technology the company inherited when it acquired Romanian antivirus software developer GeCAD Software SRL in June 2003.

The release of the Windows AntiSpyware beta should help give IT security managers "more pull" with upper management when they seek funds for spyware protection tools, said Jarrad Winter, network security manager at Western United Insurance Co. in Irvine, Calif. "Now that Microsoft is publicly making it known that this is a problem, spyware will no looger be a throw-it-in-the-corner type of [issue]," he said.

> **"Now that Microsoft is publicly making it known that this is a problem, spyware will no longer be a throw-it-in-the-corner type of [issue].**
>
> **JARRAD WINTER,** NETWORK SECURITY MANAGER, WESTERN UNITED INSURANCE CO

Microsoft's move "really demonstrates how big of a problem spyware has become," noted Andrew Plato, president of Anitian Enterprise Security, a systems integration and consulting firm in Beaverton, Ore.

And it's about time that Microsoft recognized the extent of the problems posed by spyware, said Russ Cooper, editor of the NTBugTraq newslist and an analyst at TruSecure Corp. in Herndon, Va.

"It's taken a long time for Microsoft to acknowledge that what's been happening to PCs in terms of Trojans and spyware is a result of mechanisms built into Internet Explorer," Cooper said, adding that the vendor needs to balance the addition of more functionality with security needs.

Windows AntiSpyware is designed to help users detect and block spyware and remove it from infected systems, said Amy Carroll, director of Microsoft's security business and technology unit. She said Microsoft hasn't decided whether it will continue to make the tool available for free download or will eventually charge users for it. But there will be at least one more beta version before the software is formally released, she added.

The GeCAD-based tool consolidates a series of malicious-software-removal utilities that Microsoft has shipped since last January, each targeting a single virus or worm. In the future, Microsoft will update the as-yet-unnamed product with new virus signatures as part of its monthly release of software patches, Carroll said.

The new releases build on Microsoft's efforts to integrate more security tools with its products. But for now, at least, there's nothing about Microsoft's offerings that should get security vendors such as Symantec Corp. and McAfee Inc. "up in arms," said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa.

QuickLink 51788

MORE ONLINE

Promised antispam and antivirus software will have to wait until the next major release of Exchange Server, Microsoft says.
QuickLink 51792
www.computerworld.com

More Worm Variants Target Smart Phones

THE EMERGENCE of two new variants of a worm that targets smart phones could signal the beginning of more attacks against such devices, said the security software vendor that discovered the threats.

But some security analysts said that there's no reason for immediate concern and that large-scale attacks targeting smart phones and handheld computers are unlikely in the short term.

Helsinki-based F-Secure Corp. issued an advisory in late December warning of an increasing number of attacks against smart phones after it found two new variants of the Cabir worm, which first appeared last June and targets devices running Symbian Ltd.'s mobile operating system.

"The thing that concerns us the most is that there is a lot of the original source code for Cabir out there," said Travis Witteveen, vice president of the Americas at F-Secure's U.S. headquarters in San Jose. Thus far, Cabir and its variants haven't proved to be particularly destructive, he said. But that could change, since the source code is floating about freely, he added. For instance, the new variants of Cabir are capable of fixing a code flaw that slowed the spread of the original version, according to Witteveen.

He said that in addition to Cabir and its variants, new versions of another piece of malicious code called Skulls that also targets Symbian's software have begun appearing, further raising the potential threat to users.

The increase in malware targeting smart phones is something that IT security managers need to keep an eye on, said John Pescatore, an analyst at Gartner Inc. "But three things have to come together for there to be a real virus threat in the smart phone world," he said. "A dominant [operating system] platform has to emerge, the phones have to be able to run external software on them, and there has to be more penetration [within companies]." Gartner doesn't expect those three things to happen until the end of 2006, he added.

Nonetheless, companies that are using PDAs and smart phones should start treating such devices as corporate assets and figure out formal processes for protecting them before the end of next year, Pescatore advised.

"You'd be bordering on the negligent to completely ignore this issue," said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa. But it's an immediate concern only for companies that are heavily using smart phones, he said, adding that very few are doing so now. "In the real world, you have to prioritize your work, and my guess is that this would be on the low end of that list," Lindstrom said.

–Jaikumar Vijayan

Users Remain Loyal to iSeries, Despite Entreaties by Microsoft

IT execs find .Net appealing for Web apps but stick with IBM's midrange line

BY CAROL SLIWA

Microsoft Corp. and several partners last month teamed up in hopes of enticing IBM iSeries users to extend or migrate their applications to Windows and .Net. But while some iSeries users have shown interest in Microsoft technology for their Web applications, several said last week that they have no intention of moving off their iSeries servers anytime soon.

"I like to sleep at night," said Mark Bondurant, vice president of IT at CBK Ltd., a wholesale importer of decorative home accents in Union City, Tenn. "Microsoft has made some headway with their servers. But the AS/400, from the ground floor, was designed to handle multiple tasks going on at the same time." AS/400 was the original product name for the iSeries.

Despite his loyalty to the iSeries, Bondurant was happy to find a Microsoft lifeline when CBK was building a graphical user interface for a Web-based sales force automation application that went live last May. Bondurant turned to Amalgamated Software of North America Inc. (ASNA), a Microsoft business partner in San Antonio, for its Visual RPG for .Net tool and companion middleware called DataGate that links a Windows server to CBK's iSeries systems.

When considering its options for the Web-based application, CBK viewed IBM's Java development path as too complex, Bondurant said. He added that the company didn't want to outsource the work to developers who didn't know its business. With ASNA's tools, CBK's developers could continue to use the familiar RPG language, he said.

Labatt Food Service, a distributor based in San Antonio, also rejected Java as too complicated for Web applications that need to access its iSeries data. The company chose Microsoft's Visual Basic tools and also uses DataGate, which talks to its iSeries servers through proprietary protocols, said Tony Canty, Labatt's vice president of information systems and accounting.

"I plan to stay with the iSeries as long as IBM does, but I think they've made mistakes in the way they're going about WebSphere," Canty said. "If you go WebSphere, you have to do everything with Java. The beauty of .Net is you can do any language."

Microsoft's Common Language Runtime environment lets Windows developers write code in more than 20 programming languages.

But some iSeries users have taken a different path. Jon Dell'Antonia, vice president of IT at OshKosh B'Gosh Inc. in Oshkosh, Wis., said the retailer opted for Java-based development tools from Macromedia Inc. for some of the Web applications that access the integrated databases on its two iSeries servers.

Point of Entry

Tom Bittman, an analyst at Gartner Inc., said iSeries users can't stay on RPG forever. The application architecture will be up for grabs, with IBM trying to push users to WebSphere and Microsoft wooing them to .Net, he said. But Bittman predicted that there won't be many users who actually swap out their servers.

Even Microsoft acknowledges that the immediate focus of its Midrange Alliance Program is to give iSeries users "a point of entry into the Microsoft platform in a way that solves a near-term problem," said Tim O'Brien, a senior product manager for platform strategy at Microsoft. As examples of near-term problems, he pointed to modernizing or extending applications.

O'Brien said migration becomes an issue when users upgrade AS/400s that may be nearing end of life and start to consider cost, complexity and integration. "ISeries customers love their machines," he said. "What they don't like is the current set of choices they're getting from IBM's road map."

But Ian Jarman, an iSeries product manager at IBM, said Microsoft's push is largely based on an IBM technology plan designed to allow iSeries users to exploit RPG and Cobol code to add new graphical user interfaces built to open standards. The alliance is "really a reaction to the application modernization in the iSeries community," Jarman said. In some respects, it's "an endorsement of what we're doing," he added.

KEY FEATURES

Microsoft's Midrange Alliance Program

DEVELOPMENT TOOLS

- Visual Studio
- ASNA's Visual RPG for .Net
- Lansa Inc.'s Visual Lansa development environment
- Advanced Systems Concepts Inc.'s RPG into Objects and R0Obravo
- Fujitsu Software Corp.'s NetCobol for .Net
- California Software Corp.'s InfiniteNet development environment

COMPANIES OFFERING INTEGRATION AND TRANSFORMATION SERVICES

- Bom Information Services Inc.
- Covansys Corp.
- Electronic Data Systems Corp.
- Fujitsu
- HCL Technologies Ltd.
- Iteration2

Users Pleased to See IBM Put iSeries on Small Screen

BY PATRICK THIBODEAU

WHILE Microsoft gathered industry partners for its Midrange Alliance Program, IBM began running ads about the iSeries on the television shows *Lost* and *Boston Legal* during the holiday season, much to the delight of some iSeries users.

"I was thrilled to see that kind of marketing," said Rosanne Reynolds-Lair, CIO at the Fashion Institute of Design & Merchandising in Los Angeles. She cited the ads as evidence that IBM is listening to its users.

At an iSeries user conference in October, some attendees questioned IBM's long-term support for the midrange line. Users expressed fears that if IBM really wasn't trying to sell the iSeries, the installed base of about 240,000 users would shrink, as would the demand for iSeries-specific expertise such as RPG programming skills (QuickLink 50281).

At the October conference, which was held by Common, the Chicago-based user group, IBM officials said they were working on a plan to boost awareness of the iSeries line and increase support for the systems by independent software vendors.

The new TV ads have been "very reassuring to the iSeries community," said Beverly Russell, IT director at E.D. Smith & Sons Ltd., a food products manufacturer in Winona, Ontario. Russell said users have been trying to get IBM to do that kind of marketing for years.

"That was refreshing to see," agreed Mark Bondurant, vice president of IT at CBK. "It's a little step. I want to see a lot more."

Bondurant added that he has been concerned about the long-term prospects for the iSeries, which debuted in 1988 as the AS/400.

"If you're not putting any marketing money behind the product, it doesn't matter how good it is," he said. "All you're going to do is end up riding your existing customer base until it dwindles down."

Monthly Crisis

Tony Canty, vice president of information systems and accounting at Labatt Food Service, said that there are too many iSeries installations worldwide for IBM "to walk away from it." But Canty added that he wishes IBM had thought twice before renaming the product.

"They made a big marketing mistake when they went from AS/400 to iSeries," he said. "Nobody knows what the hell the iSeries is."

IBM said the TV ads are only part of what it's doing to improve the image of the iSeries and help users of the systems. Last year, the company invested a total of $500 million in the iSeries line, according to IBM officials. They also cited its efforts to attract new software vendors, which could drive additional hardware purchases.

That was the case for Cornhusker Bank in Lincoln, Neb., which installed Information Technology Inc.'s banking software on an iSeries system last year. ITI, which is also based in Lincoln, began offering its applications on the iSeries during 2004. It also supports Unisys Corp.'s ClearPath mainframes.

Ken Ward, Cornhusker's executive vice president in charge of operations, said that before making a final decision on the hardware, bank officials talked with some iSeries users, who gave positive reviews of the product. "We just felt fairly comfortable with it," he said.

Computerworld reporter Carol Sliwa contributed to this story.

51797

Computerworld reporter Patrick Thibodeau contributed to this story.

BRIEFS

U.K. Retailer Opens IT Unit in India

U.K.-based retailer Tesco PLC has set up an IT services and business process support subsidiary in Bangalore, India, and plans to move hundreds of jobs there later this year. The Tesco Hindustan Service Centre will have a staff of about 770 by the end of 2005. Tesco already has about 190 people in India working on a variety of development projects.

Apple Unveils Xsan SAN File System

Apple Computer Inc. last week started shipping its Xsan storage-area network file system. The 64-bit cluster file system enables Mac OS X Server users to share files and volumes of up to 16TB on a Fibre Channel network. The file system is priced at $999 per client and per server.

Ceridian Sells Off SourceWeb Assets

Ceridian Corp. last week said that it has sold certain customer relationships and other assets associated with its SourceWeb payroll platform to RSM McGladrey Employer Services Inc. Ceridian had earlier blamed the SourceWeb system for cutting into its 2003 and 2004 profits. Ceridian will take a 2004 fourth-quarter charge of about $31 million, the amount of cash it received in the deal.

Group Warns of Windows Attacks

Internet security monitoring groups are warning Windows users about new Internet attacks aimed at Windows NT, Windows 2000 and Windows Server 2003 machines running the Windows Internet Naming Service. The attacks target a vulnerability that Microsoft Corp. reported and patched in December. The SANS Institute reported a recent marked increase in probes for machines running WINS.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL

MATTHEW FARMER

Macs Attract New Support From . . .

. . . IT vendors that contend that Apple Computer's desktops are on the rebound inside big organizations. "We've been impressed with the resurgence of the [Macintosh] platform. It's gaining momentum," says Bennett Griffin, CEO of Griffin Technologies LLC, a security vendor in Lawrence, Kan. At this week's Macworld conference in San Francisco, Griffin's company will release its $129 SecuriKey Professional Edition product, which combines a 1-in.-long USB encryption device and client software to protect data on Macs. That could be useful when a Mac laptop is lost or stolen, or if you keep ultrasecret data on your G5 desktop. Without the USB dongle and a password, the data is inaccessible, Griffin claims. He says his bigger customers have been asking for help securing Macs along with Windows machines. Griffin's engineers are also developing an enterprise edition that will let systems administrators centrally manage SecuriKey devices from Macs. The admin console is available only for Windows now.

15% Percentage of Macworld Expo attendees who are from firms with 1k+ employees.

Even though IT shops have spent years trying to rid their companies of Macs, the pesky systems just won't go away, says John Dean, director of marketing at Atempo Inc. "People talk about consolidating under one platform, but I don't see it happening," he says. France-based Atempo is a 12-year-old vendor of Windows backup software that opened a U.S. office last year in Palo Alto, Calif. At Macworld, the company will unveil Time Navigator 3.7, which can hack up and restore data to Mac OS X servers. Like Griffin, Atempo was pushed by large customers, such as Raytheon Co. and France Telecom SA, to add Mac support, Dean says. Mac users get Time Navigator's full capabilities, such as encryption of data during backups and self-service file-restore rights for end users. Pricing starts at less than $5,000.

GRIFFIN TECHNOLOGIES' SecuriKey USB device

Multimedia means multiple file formats . . .

. . . and all the incompatibility that goes with them. That's why New York-based TransMedia offers Colaborata, which CEO Donald Leka describes as a "compatibility engine." According to Leka, Colaborata lets you place any file into an "upload window" that links to the service, which then translates the file into a format viewable on your PC or Mac. Colaborata 2.5.3, which is due to ship late this month, adds a feature that lets you load digital media content into a shared calendar, call a meeting for people inside and outside your organization and ensure that everyone will be able to view all the information. Pricing is $60 a month per user.

Virtualization tools reach down to PCs . . .

. . . with a beta tool from VMware Inc., a Palo Alto-based division of EMC Corp. Called VMware Ace, the $99-per-seat program lets you set end-user rights on PCs used by contractors, temps, mobile users and others. You can specify the networks that a device can access and create secure containers so that, for example, mobile users linked to networks outside your firewall can't release unapproved data or compromise their systems by accepting malware. But Michael Mullany, vice president of marketing at VMware, argues that the biggest growth potential for his business remains in the data center. "People are looking at acres of

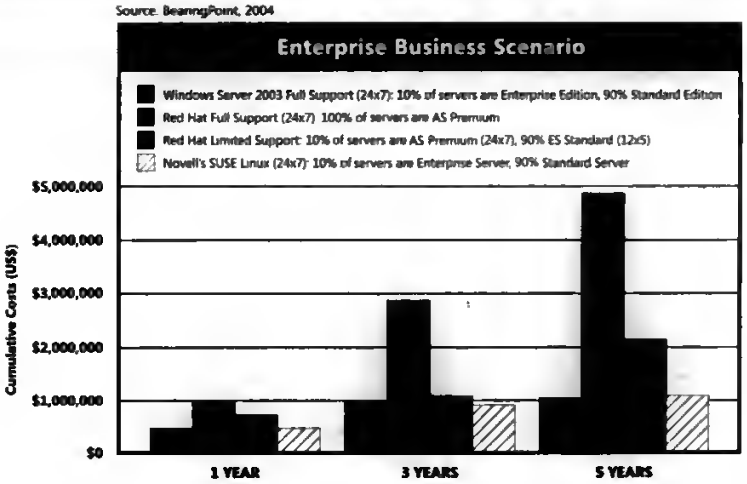
Windows and Linux servers and seeing utilization rates in the 2% to 15% range," he claims. Mullany suggests that you can save 30% on hardware, 20% on software licenses and up to a whopping 70% on operations management costs through an aggressive server virtualization program. Customers seeking savings like that helped boost VMware's revenue from $100 million in 2003 to more than $235 million last year, according to Wall Street estimates. Can that kind of growth sustain itself in 2005? "Oh yeah," Mullany says.

Centralized control of PHP servers . . .

. . . is now possible with Zend Platform. The new software, available today, has a central console that alerts admins if there's trouble with applications based on PHP, the open-source scripting language. Zend Platform also can take you to the exact lines of code responsible for the flub, according to Pamela Roussos, vice president of marketing at Zend Technologies Inc. in Cupertino, Calif., which is the primary developer of PHP. Roussos says Zend Platform works with Zend Studio 4.0, an integrated development environment that's set for release on Feb. 14. Zend Platform also comes with a J2EE integration module that lets you tie PHP components to ones written in Java. Subscription pricing begins at $995 per year.

51761

Source: BearingPoint, 2004



A recent study of licensing and support costs conducted by BearingPoint, a leading independent consulting firm, found that these acquisition costs for Windows Server™ 2003 are comparable to Red Hat Enterprise Linux or Novell's SUSE Linux Enterprise Server "despite the common perception that Linux is free or very inexpensive." However, if you require full 24x7 phone support on all servers, licensing and support for Windows Server 2003 can cost up to 73% less than Red Hat Enterprise Linux* over five years.

For the full study, visit **microsoft.com/getthefacts**

***Red Hat Full Support (24x7) estimates based on case where 100% of servers are Enterprise Linux AS Premium. Red Hat Limited Support estimates are based on case where 10% of servers are Enterprise Linux AS Premium (24x7 phone support) and 90% are Enterprise Linux ES Standard subscriptions (9 a.m.–9 p.m. EST M–F phone support). Windows Server estimates are based on case where 10% of servers are Windows Server 2003 Enterprise Edition and 90% are Windows Server 2003 Standard Edition (24x7 phone support on all). This study was commissioned by Microsoft.**

Microsoft® Windows Server System™

Corporate Use of IP VPN Services Gains Momentum

IT managers say service provider option offers lower costs, less management complexity

BY MATT HAMBLEN

MCI INC. last week announced new satellite links and firewall capabilities for its IP virtual private network service and said VPN deals with corporate users blossomed last year — a claim that was echoed by rivals Sprint Corp. and AT&T Corp.

Those three companies and other network service providers began feverishly marketing IP VPN services two years ago, and 2004 was a big year for customer adoption of the services, according to the carriers and industry analysts. Officials at MCI, Sprint and AT&T said the number of their VPN users tripled or nearly tripled last year, an upswing that they expect to continue this year.

MCI claimed that more than 1,000 companies are using its Private IP service, while Sprint and AT&T both said they have hundreds of customers for their offerings.

Several IT managers said the VPN services have lowered their networking costs and given them the ability to set up quality-of-service capabilities for video or voice traffic that shares a network with data transmissions. In addition, relying on a service provider can reduce network management complexity compared with trying to provision and maintain a VPN internally, the users said.

Easier Option

Helsinki, Finland-based Amer Group PLC, which owns sporting goods brands such as Wilson, began using MCI's VPN service in the U.S. last year after initially adopting it in Europe during 2003, said Jermaine Mason, IT manager at the company's Amer Sports Services division in Chicago. Amer spent about $250,000 globally for Private IP last year, he said.

The company weighed offers from several carriers and considered trying to develop a comparable network itself, Mason said. But ultimately, Amer chose MCI despite the fact that the vendor had been charged with financial improprieties that forced it to file for bankruptcy protection, from which it emerged last April.

"We felt MCI was coming out stronger after everything they went through, and they were one of the bigger providers," Mason said. "We considered the work we'd need to do to maintain such a network service and decided it is much easier to [rely on] MCI."

Videoconferencing is already supported on some of the VPN links in addition to data transmission, and the use of videoconferencing technology will be expanded in the future, according to Mason. In all, 20 Amer locations in Europe and the U.S. are connected, he said.

Bisys Information Services, which offers hosted financial and banking applications, uses AT&T's IP-enabled frame-relay service to connect to its customers, said Bob Pojman, senior vice president of technology and network services at the Houston-based unit of The Bisys Group Inc.

The AT&T VPN provides "any-to-any" connectivity instead of requiring bank branches to connect to Bisys through a hub, making it easier for customers to use the company's applications, said Pojman. By eliminating the hub, network latency dropped by nearly 30%, while costs increased by only about 10%, he added. Pojman wouldn't disclose how much Bisys is paying for the VPN service.

Another MCI customer, Euler Hermes American Credit Indemnity in Owings Mills, Md., has used Private IP for more than a year for data traffic and some voice-over-IP trials, and it plans to run a full VoIP system over the VPN.

"It saves us tons of money," said David Kozlowski, vice president of technical services at Euler Hermes ACI. He noted that the credit insurer was able to double the bandwidth of its WAN links to 256Kbit/sec. while dropping its monthly costs from $10,000 for a previous frame-relay network to $8,000. **51798**

Correction

NEW PRODUCTS

Extreme Networks Adds Pair of Modular Switches

Aspen 8800 Series
Extreme Networks Inc.

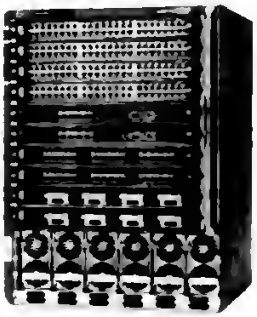
■ **PRODUCT SUMMARY:** Santa Clara, Calif.-based Extreme today plans to introduce two modular switches with Gigabit Ethernet and 10 Gigabit Ethernet capabilities. The Aspen 8810 includes 10 slots, and the Aspen 8806 has six. Extreme said the Aspen rollout adds a tier of switches below its BlackDiamond high-end line. The new devices are suited for use as access-layer switches for integrating wired, wireless and IP telephony deployments and as interconnects for high-performance computing clusters, the company said.

■ **USER EXPERIENCE:** Welch Foods Inc. in Concord, Mass., has purchased two Aspen 8810s to use as core network switches that will work in tandem, with one redundant to the other, said Carmine Iannace, manager of IT architecture at the juice and jelly maker.

The switches, which are due to be installed within a month, will eventually be shifted to support a planned voice-over-IP system. But Iannace said that for now, their performance and high-availability features should let them function well in Welch's data center. "High availability in these switches is critical for us, since we support financials for manufacturing and other functions," he said.

Extreme "gave us a very aggressive price" on the Aspen switches, Iannace added. He wouldn't disclose the amount but said it was 35% lower than the cost of Catalyst 6509 switches from Cisco Systems Inc. that he also evaluated.

Another customer, High Performance Technologies Inc. in Reston, Va., is adding an Aspen 8810 to a Linux-based system that the National Oceanic and Atmospheric Administration uses to do weather modeling, said Craig Tierney, a systems architect at HPTI. The switch will be placed in the backbone of the 1,000-node cluster at a NOAA facility in Boulder, Colo. HPTI is a systems integrator for the agency.


Extreme's Aspen 8810 switch

According to Tierney, HPTI has used Extreme's products for many years because the vendor's gear is both high-performance and inexpensive. "We want everything, and we want it really cheap," he said.

■ **ANALYST ASSESSMENT:** Josh Johnson, an analyst at Synergy Research Group Inc. in Scottsdale, Ariz., said the Aspen line is based on a marketing and research collaboration with Avaya Inc., which offers voice switching products. "Very customer-friendly pricing is likely to help the Aspen," Johnson said.

■ **OTHER VENDORS IN THE MARKET:** Cisco and Foundry Networks Inc., among others.

■ **PRICING:** Starts at $350 per port for Gigabit Ethernet functionality and $3,500 per port for 10 Gigabit Ethernet.

■ **AVAILABLE:** Now **51783**

– *Matt Hamblen*

Corporate Use of IP VPN Services Gains Momentum

IT managers say service provider option offers lower costs, less management complexity

BY MATT HAMBLEN

MCI INC. last week announced new satellite links and firewall capabilities for its IP virtual private network service and said VPN deals with corporate users blossomed last year — a claim that was echoed by rivals Sprint Corp. and AT&T Corp.

Those three companies and other network service providers began feverishly marketing IP VPN services two years ago, and 2004 was a big year for customer adoption of the services, according to the carriers and industry analysts. Officials at MCI, Sprint and AT&T said the oumber of their VPN users tripled or nearly tripled last year, an upswing that they expect to continue this year.

MCI claimed that more than 1,000 companies are using its Private IP service, while Sprint and AT&T both said they have hundreds of customers for their offerings.

Several IT managers said the VPN services have lowered their networking costs and given them the ability to set up quality-of-service capabilities for video or voice traffic that shares a network with data transmissions. In addition, relying on a service provider can reduce network management complexity compared with trying to provision and maintain a VPN internally, the users said.

Easier Option

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– *Matt Hamblen*

BRIEFS

UPS Promotes Barnes to CIO

United Parcel Service Inc. named David A. Barnes CIO and senior vice president, replacing the retiring Ken Lacy. Barnes, a 28-year UPS veteran, was previously vice president of customer and operations application portfolios in UPS's information services department. In his new role, Barnes joins the UPS management committee.

AMD Plans to Host Developer Show

Advanced Micro Devices Inc. plans to host its own developer conference this year, after years of holding meetings with analysts and the media at rival Intel Corp.'s conferences. A source said the conference will be held in the second quarter, right around the time that Microsoft Corp. is expected to release a production version of 64-bit Windows.

Spyware Bill Gets Second Chance

Congress will vote again this year on amended antispyware legislation that would call for fines of up to $3 million for makers of software that can steal personal information from a computer or hijack its browser. A similar bill was passed by the House last year but rejected by the Senate. The new bill addresses the objections of vendors that complained that the original bill could make their services subject to fines.

IBM Tools Aid in Federal Compliance

IBM this month will roll out its Solution for Compliance in a Regulated Environment, or Score, a middleware suite including document- and data-management software plus application integration, business process management and collaboration tools. The system is intended to help companies comply with the Sarbanes-Oxley Act and other federal regulations. Pricing hasn't been set.

IT Execs Divided on Software Cost Trend

But most expect continued hikes in application maintenance, support fees

BY THOMAS HOFFMAN

FOR THREE YEARS, enterprise customers have had the upper hand in business application price negotiations.

From 2001 to 2003, IT spending cutbacks let customers negotiate as much as 50% discounts off the list prices for software. Continued weakness last year forced vendors to boost those discounts to the 65% to 70% range, said Gartner Inc. analyst Jane Disbrow. Maintenance fees grew during the downturn, she said.

Looking out into 2005, IT managers and industry analysts said it isn't clear how software pricing will go, though some noted that a variety of market factors could slow the discounting trend and in some cases even lead to increased prices. At the same time, most IT managers interviewed last week said they expect maintenance and support costs to keep growing as they continue searching for software cost certainty.

Validating Price Hikes

John Schille, CIO at American Fidelity Assurance Co. in Oklahoma City, said he expects a "moderate" increase in application costs. He said vendors may justify cost increases by improving base functionality.

Vendors will have to validate the need for any price hike, said Dan Demeter, senior vice president and CIO at Korn/Ferry International, an executive recruitment firm in Los Angeles. "I think vendors are going to be careful about raising prices in a noticeable way," he said.

Since 2001, application vendors have generally raised maintenance and support fees from 14% to 15% of annual licensing fees to 18% to 20%, said Disbrow. In recent months, though, vendors have shown a willingness to negotiate lower maintenance costs by charging a percentage of the discounted price rather than the list price, especially for customers buying new licenses, she said.

At Microsoft Corp., though, maintenance discounting isn't a common practice, said Sunny Jensen Charlebois, product manager in the worldwide licensing and pricing group at the company. "If we discount, we undermine the value of the software," Charlebois said.

Barry Cohen, vice president of applications management at Wells Real Estate Funds Inc. in Duluth, Ga., said such deals are unavailable to companies that aren't buying new applications. His software vendors typically tack on 4% increases in annual licensing fees, which lead to increases in maintenance costs. "The biggest pain point I see is on the maintenance," Cohen said. Vendors are "very aggressive on the initial pricing" but not on maintenance.

For its part, Ameritrade Holding Corp. is forced to pay "hefty" sums for maintenance of mission-critical applications but is less willing to do so for noncritical systems, said Jerry Bartlett, Columbia, Md.-based vice president of application development at the online stock brokerage. Bartlett also looks for new payment options from vendors. "Not everyone is going to be willing to pay for gold- or platinum-level support," he said.

Meanwhile, Meta Group Inc. predicts that application software costs will fall over the next three to five years as a result of increased adoption of low-cost operating platforms such as Linux and a trend among enterprise customers to leverage Web services and service-oriented architectures to build applications and functionality on top of existing business applications, said analyst Dale Kutnick.

Whether application costs rise or fall, enterprise customers share a common goal: they want their software costs to be predictable, said Frank Enfanto, vice president of operations delivery at Blue Cross and Blue Shield of Massachusetts Inc. in Boston. **51787**

Gartner/Meta Deal Subtracts Opinion

IT EXECUTIVES and industry experts expressed concern that another independent voice has departed the IT scene in the wake of Gartner Inc.'s agreement to buy rival Meta Group Inc. for $162 million late last month.

In interviews last week, officials said the joining of the Stamford, Conn.-based firms not only signals the continuing consolidation of the IT market research industry but also reduces the number of opinions available for IT managers to seek out when plotting their technology strategies.

"It's always good to have a couple of strong companies with opposing views," said Frank Enfanto, vice president of operations delivery at Blue Cross and Blue Shield of Massachusetts, which subscribed to services from both companies.

"It just means we have fewer and fewer sources – just like in the software industry," said Dan Demeter, senior vice president and CIO at executive recruitment firm Korn/Ferry International.

Frank Koelsch, executive vice president at Info-Tech Research Group Inc., an IT research firm in London, Ontario, that caters to midsize businesses, is sour on the deal.

"This consolidation is bad for clients in that one of the major competitors is no longer available as a matter of choice," said Koelsch, who ran Gartner's Canadian operations from 1984 to 1997.

"It's no different than having a meeting within your organization and with people around the squawk box – you want divergent opinions," said Sam Whitmore, editor of Beverly, Mass.-based Sam Whitmore's Media Survey, which tracks technology, trade publications, and industry and IT market researchers. "You might not want wildly divergent opinions but degrees of difference."

Executives at Gartner and Meta, which expect to close the deal this spring, declined to be interviewed for this story.

Barry Cohen, vice president of applications management at Wells Real Estate Funds, said he wasn't too concerned about the continuing consolidation of the IT market research industry.

"There are so many articles, so many magazines that there are enough sources of information to get fair and balanced reporting on IT trends," Cohen said.

– *Thomas Hoffman*

Nokia One Business Server

Nokia Firewall/VPN Appliance

6820 Messaging Device

R.O. Ida, The CFO

The queen was in her counting house, counting all her company's savings. More specifically, when we caught up with R.O. Ida, the chief financial officer, she was tallying last month's savings, the result of a total mobility solution the Queen of Lean has begun implementing.

What's up with that jar full of old rings and tarnished coins on your ...

Shhhh! 2,997, 2,998, 2,999, three thousand dollars! Wow, right to the bottom line. And we haven't even reined in all the runaway mobility expenses yet. Oh, the jar.... It's stuff I found with my metal detector.

You're smiling, which is odd for a CFO; are you actually enjoying yourself?

It sure beats signing expense reports—they're what I like to call a salesman's best shot at creative writing! But what really gives me a kick is saving money, and that's what we're doing here now with our new total mobile strategy.

A strategy for all mobile services? Why not let individual departments decide what's best, or even the individuals themselves?

That's what got us into a big mess in the first place. Until recently, we had five different mobile service providers. We had hardware from eight different vendors. We had incompatible mobile email solutions. It was hard for us to guarantee security with such a rat's nest. And man, was it expensive. Tell you the truth, we had a really hard time just tracking the expense. To people like me, that's like not knowing the day of the week.

So what did you do?

I was complaining about this to a friend while we were window shopping, and she said, "Call Nokia." So I did. It wasn't just a business query—it was an S.O.S., because we were spending a third of our IT budget on mobility. After routine IT maintenance, we were left with zippo for strategic development. It was like throwing good money into a parking meter—there was just no return.

What did Nokia do for you?

For starters, they helped us develop a total mobile connectivity solution, with uniform high-speed remote access to give our road warriors the info they need no matter where they are, and quickly. They layered in just the right amount of security, including a secure VPN. And they gave our administrators real easy-to-use tools to assign access privileges based on user identity. This was our foundation.

Then what?

Slowly but surely, we developed a plan with Nokia to get rid of a lot of the incompatible, clunky mobile hardware and replace it with intelligent Nokia devices. They are built to work seamlessly together, which means fewer calls in the middle of the night from far-flung corners of the globe to our help desk. And less help-desk expense. With their guidance, our mobile workers get just what they need, but no more. I like that. Now we inventory all new devices, and maintenance and replacement schedules are predictable. I really like that.

Anything else?

You bet. Everyone knows the killer app today is email. It's the lifeblood for our mobile workers. Nokia worked with us to provide a uniform, simple, and highly reliable mobile email solution that has saved us big bucks. They helped us fine-tune the solution to the different devices our IT guys deploy, because some road warriors like to use their PDAs for mail, others like their laptops, and still others prefer their smart phones. Me—I just love the dollar savings that come from a single, predictable, and reliable mobile email solution.

Sounds like Nokia helped you find a key to the efficiency kingdom.

Yeah, and I didn't have to use my metal detector to find it. Now, if you'll excuse me, it's lunch time and I'd like to balance my checkbook. By the way, the time's out on your parking meter.

Interviewer Bill Laberis was editor-in-chief of *Computerworld* for ten years (1986-1996). He is president of Bill Laberis Associates, a custom publishing and content company (www.laberis.com). His columns, Webcasts, supplements and magazines are well-known and respected throughout the high-tech industry.

Learn how to mobilize your team and increase business productivity.
Download "The Anytime, Anyplace World" white paper.

nokiaforbusiness.com

NOKIA
CONNECTING PEOPLE

GLOBAL

An International IT News Digest

Autobahn Toll System Finally Begins Operation

DUSSELDORF, GERMANY

GERMANY'S electronic truck-toll system belatedly began operation on Jan. 1 without a glitch, according to the country's Traffic Ministry. The system had been plagued by technical and management problems that delayed the rollout by more than 18 months and thus cost billions of euros in lost toll revenue.

The Toll Collect system uses onboard computers with Global Positioning System technology to track the distances that individual trucks travel on toll roads and then transmit the data wirelessly to a data center for billing. About 800,000 trucks use German highways every day; so far, the onboard computers have been installed in about 320,000 of them.

Toll Collect GmbH, the operator of the toll system, is a joint venture between DaimlerChrysler AG, Deutsche Telekom AG and Cofiroute SA, a French company that manages motorway operations. The consortium suffered a setback when it encountered software problems with the initial onboard unit. It decided to deploy a simplified version of the software, which is due to be replaced with a full version next year.

■ JOHN BLAU, IDG NEWS SERVICE

Samsung Builds 21-in. Organic LED Display

TOKYO

SOUTH KOREA-based Samsung Electronics Co. last week unveiled a prototype organic light-emitting diode (OLED) display that it says is the largest yet made by any manufacturer.

The Samsung screen measures 21 in. diagonally and offers a Wide Ultra Extended Graphics Array resolution displaying up to 6.22 million pixels. OLED displays, a potential replacement for LCD and plasma displays, don't need a backlight, so their power consumption is low. They're also more responsive to fast-moving images, according to the technology's backers.

Samsung's prototype OLED display

Samsung said the 21-in. OLED display could be mass-produced on its existing manufacturing lines. There was no word on when the device will be come commercially available.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

Tsunami Spares India's Chennai Data Centers

BANGALORE, INDIA

OUTSOURCING companies that have operations in Chennai, one of the locations on India's southeast coast hit by the Dec. 26 tsunami, said they were largely unaffected and have decided to stay in the city.

For example, Bangalore-based Wipro Ltd. uses its Chennai facility as one of two backup sites for its own corporate data as well as for customer data. "We have no plans to move the backup facility from Chennai, because the facility is sufficiently inland and not at risk," a company spokesman said.

Because of a border dispute in the north of India between the governments of India and Pakistan, several outsourcing vendors have beefed up their operations in Chennai, figuring that it would be a safer location in the event of a war between the two countries. **51760**

■ JOHN RIBEIRO, IDG NEWS SERVICE

Compiled by Mitch Betts.

Briefly Noted

Asianux 2.0, a Linux distribution being developed by three vendors in South Korea, China and Japan as a standard version of the open-source operating system for Asia, will be released in July, a spokeswoman for Seoul-based Haansoft Inc. said last week. The other partners are Red Flag Software Co. in Beijing and Miracle Linux Corp. in Tokyo.

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Code Reuse Pays Off for ING

BY LUCAS MEARIAN

ING Americas last month finished work on a quality-management application built using an innovative development process that the company estimated saved it $300,000 and 1,200 man-hours.

The ING IT team first built the architecture and specifications for the application — about 60% of the work — and farmed out the rest to Glastonbury, Conn.-based TopCoder Inc., which solicits bids from independent developers interested in building components for specific projects. TopCoder also reuses Java and .Net components built for other projects.

"We've built applications from reusable code several hundred times internally, even through India-based outsourcing, but nothing quite like this, where you create a competition and put out an RFP on codable specs," said Chief Technology Officer Raymond Karrenbauer.

While the project's savings aren't hugely significant for Atlanta-based ING Americas, a division of $106 billion ING Groep NV, Karrenbauer said he hopes to institutionalize the service-oriented application development methodology, which he called "revolutionary."

Fast Fix Needed

The financial services firm needed the application in part for a massive data integration effort started in July 2001 that created a unified information architecture for its seven U.S. business units [QuickLink 49418]. Initial use of the system revealed data-quality problems that had to be fixed quickly. The company was able to build a complex application to fix the problem in two months using the new procedure.

For the ING project, 87% of the application came from reusable Java components, Karrenbauer said.

The application, completed late last month, was designed to improve the quality of information moving through several linked IBM DB2 Universal Database systems, which contain financial, customer, transaction, product and sales data.

The new program looks for data anomalies to see if any values are incorrect, such as name spellings or ZIP codes, and then alerts an administrator to correct them.

Karrenbauer said the new application, which consists of 17,000 lines of code in 13 modules, cost $20,000 to develop, compared with an estimated $400,000 to code it in-house.

"This is an interesting model, because it's like using a general contractor. The vendor takes your specification, puts out an RFP to build it, and then they perform a validation check on it. We then put it into production," Karrenbauer said.

"Right now, the big buzz is around code sourcing" — using outsourcers to build applications via traditional methods, Karrenbauer said. "Those are more cost-efficient models than we have today. But this is revolutionary. It blows those models out the window." **51789**

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For the ING project, 87% of the application came from reusable Java components, Karrenbauer said.

The application, completed late last month, was designed to improve the quality of information moving through several linked IBM DB2 Universal Database systems, which contain financial, customer, transaction, product and sales data.

The new program looks for data anomalies to see if any values are incorrect, such as name spellings or ZIP codes, and then alerts an administrator to correct them.

Karrenbauer said the new application, which consists of 17,000 lines of code in 13 modules, cost $20,000 to develop, compared with an estimated $400,000 to code it in-house.

"This is an interesting model, because it's like using a general contractor. The vendor takes your specification, puts out an RFP to build it, and then they perform a validation check on it. We then put it into production," Karrenbauer said.

"Right now, the big buzz is around code sourcing" — using outsourcers to build applications via traditional methods, Karrenbauer said. "Those are more cost-efficient models than we have today. But this is revolutionary. It blows those models out the window." 51769

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Continued from page 1

Privacy

page fits in a single screen on a PC and is separated into six data fields, each containing concise, bulleted information about P&G's privacy policies. Links are included that open separate windows with more detailed descriptions of the policies.

P&G has yet to implement a similar short-form notice on its European Web sites, but Hughes said it plans to do so. "What will take time is the multiple language translations to go on top of our policies, which are already in 17 languages," she said.

Peter Cullen, Microsoft's chief privacy strategist, said the software vendor also plans to implement a layered notice approach similar to the one being used by P&G.

Focus-group research done last year by Microsoft in Germany and Hong Kong showed that consumers were overwhelmingly in favor of shorter privacy notices, he said.

Microsoft will begin by implementing short-form notices on its MSN Web sites in Europe, Cullen said. He noted that the challenge is in figuring out exactly what information needs to be included in the shortened notices to make them suitable for the bulk of Microsoft's customers.

The EU's data privacy commissioners are proposing the adoption of the modular notices as a way to make privacy statements more user-friendly, said Jonathan Bamford, assistant commissioner in the U.K.'s Information Commissioner's Office.

Legal Obligations Remain

The short-form proposal does not eliminate the legal obligations that companies have to disclose their privacy polices in full, according to Bamford. "What it does is provide another layer of clarification beyond what the law says you have to do," he said.

Under the multitier approach, companies still must offer a full notice that spells out all of their privacy policies and their legal obligations. They can supplement that notice with the following:

- Short notices for situations where the space available for displaying information is limited, such as on cell phones or handheld devices.
- Condensed notices presented in the format that P&G is using, with brief descriptions of policies on the kind of personal data that a company collects, how the information will be used, who it will be shared with and the right to view and correct information.

There's a need for a similar privacy-notice model in the U.S., said Martin Abrams, executive director of the Center for Information Policy Leadership at Hunton & Williams LLP in Richmond, Va. The center, whose members include Microsoft, P&G, Eastman Kodak Co. and Citigroup Inc., led a workshop on the EU proposal last March in Berlin.

Privacy notices in general have gotten "incredibly long" over the past few years, Abrams said, pointing to the adoption of federal regulations such as the Gramm-Leach-Bliley Act and the Health Insurance Portability and Accountability Act.

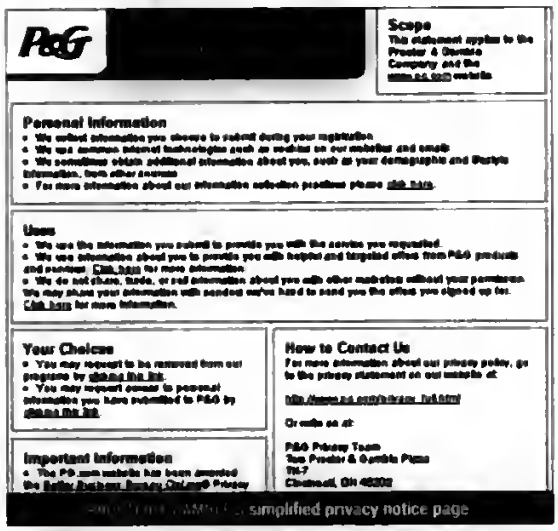
"When GLBA and HIPAA were passed, there was a requirement to make these notices even more complete and long," he said. That has resulted in privacy notices that are barely readable and largely ineffective, Abrams claimed.

But companies in regulated industries could find it hard to use shorter notices, said Kirk Herath, chief privacy officer at Nationwide Mutual Insurance Co. in Columbus, Ohio.

"Those of us who are required to provide privacy notices under GLBA or state privacy law have very specific notice requirements as to what we need to say and explain to our customers," he said. "I've never seen a short-form notice that does an effective job of providing all of the necessary legal ingredients."

As a result, companies that use condensed notices could be leaving themselves "wide open" to charges of deceptive trade practices, Herath said.

51796



Simplified privacy notice page

Novell, Red Hat Eye Virtualization for Linux

OS rivals to offer open-source tools

BY PATRICK THIBODEAU

Novell Inc. last week said it will soon detail plans to include server virtualization technology in its SUSE Linux operating system. Red Hat Inc. intends to do the same thing with its Linux distribution, and a leading contender for both vendors may be an open-source virtualization technology called Xen.

Both Red Hat and Novell said they're also looking at a number of other virtualization technologies. Novell, for instance, is eyeing Acton, Mass.-based start-up Katana Technology Inc.'s promised virtualization software, which is expected to run on Linux machines. Beyond that, all Novell will say is that it plans to act quickly. "We want to be aggressive about it," said Ed Anderson, vice president of marketing at Novell.

Hewlett-Packard Co., Intel Corp. and Advanced Micro Devices Inc. are already working with Xen, according to officials at each of those companies. Intel and AMD are particularly interested in ensuring that Xen works well with their chip-partitioning technologies, which are due out next year.

Xen is available for download from the Web site of the University of Cambridge in England, where the 3-year-old open-source effort is based. The creators of Xen plan to open a company called XenSource Inc. in Palo Alto, Calif., within the next few weeks to support users of the technology.

Waiting for Acceptance

But corporate users may not embrace Xen until mainstream IT vendors back the technology.

That's the case for Bob Armstrong, director of technical services at Delaware North Cos., a Buffalo, N.Y.-based hospitality services provider. Armstrong uses VMware Inc.'s virtualization software to run 19 guest operating systems on two production servers, each with two CPUs. He has virtualized about 25% of his data center and plans to increase that to about half of his systems over the next 18 months.

Armstrong said the technology from Palo Alto-based VMware, which is a division of EMC Corp., has allowed him to cut hardware spending by one-third. He also uses NetWare servers and will look at Novell's virtualization technology. "Anywhere we can leverage our Novell investment, we would love to do that," Armstrong said. "If we weren't a Novell shop, we wouldn't consider it."

Xeo supports Linux but not Windows, which means it's unlikely to be adopted by Carmine Iannace, manager of IT architecture at Welch Foods Inc. in Concord, Mass. Iannace is running VMware environments that support Windows, Linux and Solaris. "We want to have the ability to run Windows, Solaris and Linux on the same server, and we really haven't found anyone else who can provide that for us," he said.

But Iannace added that the emergence of Linux vendors will increase competition in the virtualization market and help corporate users "by keeping a check on prices."

Xen doesn't support Windows because it requires a modification to the operating system kernel. However, Intel's planned chip-partitioning technology and a similar offering due from AMD are expected to allow Windows to run in a virtualized environment without modifications.

51794

Xen

WHAT IT IS: An open-source virtual machine for x86-based systems.

AVAILABILITY: Released under the GNU General Public License.

OS SUPPORT: Linux 2.4, Linux 2.6 and NetBSD. No Windows support because of licensing issues.

DOE Works With TECSys on Infrastructure Security

BY THOMAS HOFFMAN

The U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) entered into an agreement late last month with TECSys Development Inc. to jointly develop software for monitoring and securing the systems that help control the nation's electricity infrastructure.

The two organizations will update the TECSys ConsoleWorks console management system. The enhancements will be aimed at monitoring energy industry network devices, including servers, routers, switches and firewalls, as well as applications such as the outage management and energy management systems that utilities use, said Jim Davidson, consulting technical specialist at the INEEL in Idaho Falls.

"Our goal here is to develop methods to protect the critical [infrastructure] of the U.S.," he said. The pact allows TECSys to sell updated versions of ConsoleWorks.

One industry expert called for the effort to be expanded to ensure the security of the control systems themselves. Such systems help regulate the transmission of electricity and the flow of water and natural gas through the U.S. infrastructure by controlling basic functions, like flipping switches and opening valves.

"What really needs to be secured are the controllers and field devices that feed the operator workstations," said Joe Weiss, an executive consultant at KEMA Consulting in Burlington, Mass., and previously a control systems security expert at Electric Power Research Institute Inc. The control systems are quite different from IT systems like ConsoleWorks and energy management systems, he added.

"People are trying to apply IT systems to control systems without knowing what the actual security gaps are in control systems that need to be solved, and without realizing that those IT technologies or test procedures could impact control system operation," Weiss said.

Evaluating Industry Systems

Davidson said the INEEL is addressing the security of control systems by evaluating the capabilities of the energy industry IT systems they interface with.

Steve Cotton, president and CEO of TECSys, said the INEEL is evaluating ConsoleWorks in its testbed to determine how more security features can be added. The ConsoleWorks enhancements include the ability to monitor critical events from either SNMP systems or noo-SNMP systems, said Cotton.

Those and other improvements, such as a repository of best practices and event remediatioo in near real time, are planned to be included in the next release of ConsoleWorks, which is due in March, he said. 51746

Microsoft Drops XP for Itanium 2 Workstations

BY JORIS EVERS

Microsoft Corp. has pulled the plug on a version of Windows XP for workstations running Intel Corp.'s Itanium 2 processor. The move follows the decisions by major hardware suppliers to stop building workstations based on the 64-bit chip.

Microsoft plans to focus on development of a version of XP for workstations based on 32-hit processors with 64-bit extensions. Windows XP Professional x64 Edition, which has already faced several delays, is due to ship by midyear. Microsoft will continue to build versions of Windows for high-end Itanium-based servers, a spokeswoman said.

In this case, Microsoft defines workstations as high-performance desktop computers often used by designers and engineers and in video production environments. Unlike Itanium, processors with 64-bit extensions are x86-based and can run applications written for both 32- and 64-bit processors.

Intel officials expressed support for Microsoft's decision to halt development of the Windows version, which was officially called Windows XP 64-Bit Edition Versioo 2003. "We're aware of Microsoft's plans and agree with their priorities and direction," said Erica Fields, an Intel spokeswoman. "The workstation market really has never been a main focus for the Itanium."

Hewlett-Packard Co. was the last major vendor to offer Itanium-based workstations; it halted sales in September, citing market conditions. Dell Inc. had already pulled its Itanium workstations off the market.

Since nobody was selling the workstation hardware, Microsoft's decision to retire Windows XP for Itanium is no great surprise, said Nathan Brookwood, an analyst at research firm Insight 64 in Saratoga, Calif. "It has beeo increasingly obvious over the last year that Itanium is moving more and more into the mid- to high-end server space and away from low-end servers and desktops." 51753

Evers reports for the IDG News Service.

DON TENNANT

New Year's Convolutions

HERE I GO, bucking the system again. What is it with me? Everybody's writing columns about their New Year's resolutions, but I just can't bring myself to do it. Instead, as convoluted and norm-defying as it may be, I'm going to write about the things I have absolutely no intention of changing in 2005.

I will be just as annoying as ever in saying "told ya so." As you're probably aware, Dave Duffield resigned from his position as CEO of PeopleSoft on Dec. 21, just one day after my column in which I advised users to expect an exodus of PeopleSoft execs [QuickLink 51488]. A few days later, PeopleSoft Co-Presidents Kevin Parker and Phillip Wilmington got the boot. Of course, all of that was a gimme. My grandmother knew Duffield would be the one to start the exit door revolving, and it pretty much went without saying that Oracle was going to clean house as soon as it got the keys. What could possibly be more annoying than saying "told ya so" after making a prediction that's glaringly obvious?

I will continue to grudgingly admit it when I goof up. In that same column, I quoted Damien Bean as comparing the Oracle/PeopleSoft merger with "Sperry buying Burroughs." As any number of helpful readers have pointed out, it was actually Burroughs that bought Sperry. And of course that's exactly what Bean said when we spoke, but I somehow managed to flip the two company names around when I wrote the column. That was just plain stupid. Sorry for the brain burp, and especially for the appearance that it was Bean's supersharp brain that had gas.

I will keep shopping at Wal-Mart, despite the fact that the retailer intimidates its suppliers into toeing its RFID line. It's no secret that many of those suppliers are less than delighted with Wal-Mart's overbearing RFID mandate and what it means for their own bottom lines, but they're just petrified to say anything to upset the good ol' boys in Arkansas. That's disgusting. On the other hand, I hate paying more for razors and shoe polish than I have to. Besides, at least they don't sell the bedding and cookware lines of any convicted felons. And where else can you buy clothes that you know weren't made by a bunch of geezers?

I will persist in believing in miracles. How could I not? How else could anyone explain how Advanced Micro Devices has been so successful with its Opteroo processor, while Intel's Itanium albatross is being plucked so badly it's getting embarrassing? It doesn't seem that long ago that AMD ranked right up there with Cyrix Corp. in the also-ran Intel-compatible chip market. It just always seemed Intel was invincible. Now the hapless Intel PR machine is having to spin positive stories out of recent developments, like Microsoft pulling the plug on Windows XP for Itanium workstations and the demise of Intel's decade-long Itanium co-development pact with Hewlett-Packard. (That pact has probably been on life support since early last year, when HP was forced by user demand to begin offering Opteron-based systems; see QuickLink 45066.) And can you imagine how ticked off Intel must have been when word surfaced last week that AMD plans to hold its own U.S developer conference, after years of suffering the indignity of having to arrange meetings with analysts and journalists at Intel's developer conferences [QuickLink 51711]?

I will continue to cease writing when I'm out of space. But only because I have to. **51768**

Don Tennant

DAN GILLMOR

Macs Could Infiltrate the Enterprise

ONE OF THE BIGGEST stories of last year was the continuing resurgence of Apple Computer — as a music and media company. The wild popularity of the iPod has been one of the most remarkable successes in recent times.

As a new year arrives, and with the start of the annual Macworld Conference & Expo in San Francisco, I'd like to remind everyone that Apple still has a story to tell in the arena where it first made its mark — computers.

For IT, Apple has always been a tough buy. The company has made too little serious effort to sell into enterprises, even when it could have made a strong case. Yet the case is actually stronger than ever in some respects. It's so strong, in fact, that I'll wager we see several major enterprise wins for the Macintosh in 2005.

For what Apple calls "creative professionals," such as people in advertising and media, the Mac is still the machine of choice. It's also a solid consumer model, especially for people who are into digital photography, video or music.

But Apple could expand its enterprise sales. One key reason is security. Despite some strong if belated effort on the part of Microsoft to fix its leaky flagship, Windows is still a security nightmare. Windows and other major Microsoft applications, notably Outlook and Internet Explorer, remain plagued by viruses, worms, spyware and other malware, and it's a constant battle just to keep up with the latest patches.

Mac OS X isn't immune, to be sure. Perhaps its low market share has prevented malware authors from plying their nasty trade on the system. But I can't remember the last time a Mac virus or worm caused any serious

damage, and so far, at least, spyware is almost totally missing. And the base of OS X, the BSD variant of Unix, is widely recognized for its solidity.

Moreover, the Mac desktop is more than adequate for most tasks these days. One reason is that most of us do just a few things with our computers, with the browser, e-mail, word processor, spreadsheet and presentation applications covering many corporate duties. And Microsoft Office is available on the Mac, after all.

Sure, for many enterprises, the Mac won't be useful, due to platform-specific internal applications. This is what holds back not only the Mac but Linux desktop deployment, too.

Apple makes its strongest enterprise case on a higher level, with its Xserve G5 servers and Xserve RAID storage systems. Both are powerful, relatively affordable and — as you'd expect from Apple — easy to administer. (It's puzzling, however, that Apple let WebObjects, the system for developing server-side Web applications, languish in the marketplace.)

For now, though, small businesses are Apple's best nonconsumer market. Meanwhile, the open-source community continues to improve Linux's desktop capabilities. Linux will probably never match Apple's ease of use and elegance, but as it becomes good enough for general use, Apple's best window of opportunity for enterprise sales will likely be narrowing.

For me, using a Mac is a practical thing. I've said this before, but it bears repeating: My Windows computer tends to get in my way when I use it. My Mac tends to get out of the way. That's a huge difference. **51676**

MICHAEL H. HUGOS

How IT Is Changing The World

RECENTLY, I was asked to speak at an IT conference in Johannesburg, South Africa (or Jo'burg, SA, as the locals say). The trip from Chicago took me first to Frankfurt, where I had a six-hour layover and spent some time looking around the airport. I couldn't help noticing two things. First, there were all kinds of people flowing through — Europeans, Arabs, Asians, Indians, Africans. And second, IT was everywhere. There were big wall posters in the concourses and electronic billboards in the shopping areas advertising products and services from IT companies in the Americas, Asia and Europe. They touted everything from laptops and the latest cell phones to on-demand computing and high-tech logistics services.

I wound up sitting in a restaurant sipping coffee and munching on a bagel. As I looked at the people passing by, I noticed a sign that said "WLAN." Did that mean what I thought it meant? I pulled out my laptop and turned it on. Sure enough, it picked up a wireless signal. I opened my browser, and up came a screen in German. In the upper-right corner was a row of national flags. I clicked on the British flag, and the screen instantly switched to English. I logged on and began sending e-mail to family and friends.

It struck me as totally cool to be able to sit in a restaurant in Frankfurt and tap out messages to people anywhere in the world. Then I saw that a number of other people also had their laptops open and were obviously doing the same thing, but with a much more nonchalant air. OK, so this is already old news to some people. Still, I felt like a member of the global IT club.

The next morning, I watched the sun rise over the African plains from 34,000 feet. The video monitor at my seat showed we were flying over Zambia, south of Lusaka, above a vast grassland spotted here and there with trees. Later, as we began our descent, an announcement played over the intercom. "Welcome to Johannesburg, Gauteng Province, South Africa, the commercial and technology hub of Africa. We offer a great climate, an educated workforce, a business-friendly regulatory environment and the best technology and communications infrastructure on the continent." Wow, I thought, this could be interesting.

I got off the plane, showed my passport and explained to customs officials that I would be staying for a week to attend a technology conference. They waved me through quickly, and I came into the main terminal. It was a large, two-story space crowded with people and dominated by big advertisements promoting the two main South African mobile phone companies. Both had offices right there so you could rent a cell phone to use during your stay in Jo'burg.

A driver met me at the airport and took me to my hotel downtown. It was about a 30-minute trip, and I took in the scene as we drove. The climate (SA is south of the equator, so it's summer now), the busy expressways and the landscape reminded me a lot of Southern California. The city is bristling with traffic, office parks and new residential developments. My driver said the economy is picking up.

I think of myself as pretty worldly, but I didn't expect this. This isn't the Africa I grew up seeing in movies and on TV. It's one thing to talk about a global economy enabled by information and communications technology, but it's a real eye-opener to actually experience it. Next month, I'll tell you about what this Chicago Yankee learned at the South African IT conference. **51329**

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READERS' LETTERS

Indiana University's Problems Not Severe

GOPAL K. KAPUR may have some experience with information systems, but he needs a refresher course in basic journalism. He based his Nov. 29 *Computerworld* column about Indiana University ["One Born Every Minute," QuickLink 50622] on assumptions that were just plain wrong. Had he contacted someone with knowledge of the situation here at Indiana University, he would have been able to base his column on facts rather than fiction. He would have known that the problems we have experienced with IU's student information system implementation were not nearly as severe as he described. He also would have known that the implementation was done in careful and well-planned phases over a five-year period. There was nothing slipshod or haphazard about it.

The one area where we experienced serious complications was in loans processing for some students, mainly on one campus.

Once problems occurred, the offices worked with the project team experts and consultants to solve them. We accommodated students by delaying payment dates and giving short-term loans for living expenses. No student was prevented from attending class because of the problem. The financial aid offices are now more knowledgeable about the new system and business processes, and thus we anticipate fewer problems in the future.

Norma Holland
Associate vice president, University Information Systems, Indiana University, Bloomington

Data and Life Cycles

INFORMATION LIFE-CYCLE management isn't a new thing. Records managers have been doing it for 30-plus years, and it wasn't achieved in a day. You need to build a case for it, obtain buy-in, understand the business process, get a grasp of the use patterns and be receptive to those patterns changing ["Business Execs Must Learn to Embrace ILM," QuickLink 50394]. People in IT think the idea is to find what you can move to less expensive forms of data management and push that as the benefit of ILM. What they fail to realize is that as business changes and more and more data is gathered and generated, business doesn't know what's less important yet. And business people want rapid access to all of it.

Take, for example, human resources data. The systems capture it in a sequential fashion so that part of Employee 1234's data is on Platter 1, part of it on Platter 3, part of it on Platter 9, etc. When you need to see Employee 1234's electronic personnel file, all of the platters with his history need to be mounted, even if he worked at the company for 35 years and retired 10 years ago, and you need to be able to search across them for all of the data at the same time.

Time and again, I've seen IT get caught in the trap of thinking it can simply use a time-based algorithm for determining when the value of data has diminished.

Lawrence J. Medina
Records and information management professional, Danville, Calif., stimmy7@yahoo.com

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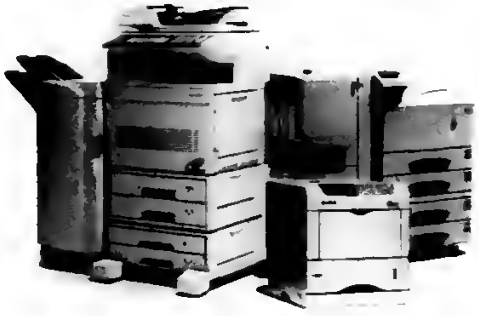

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Architected rapid application development, or ARAD, tools are helping many users to reap tbe benefits of code reuse, including lower costs and improved productivity. **Page 26**

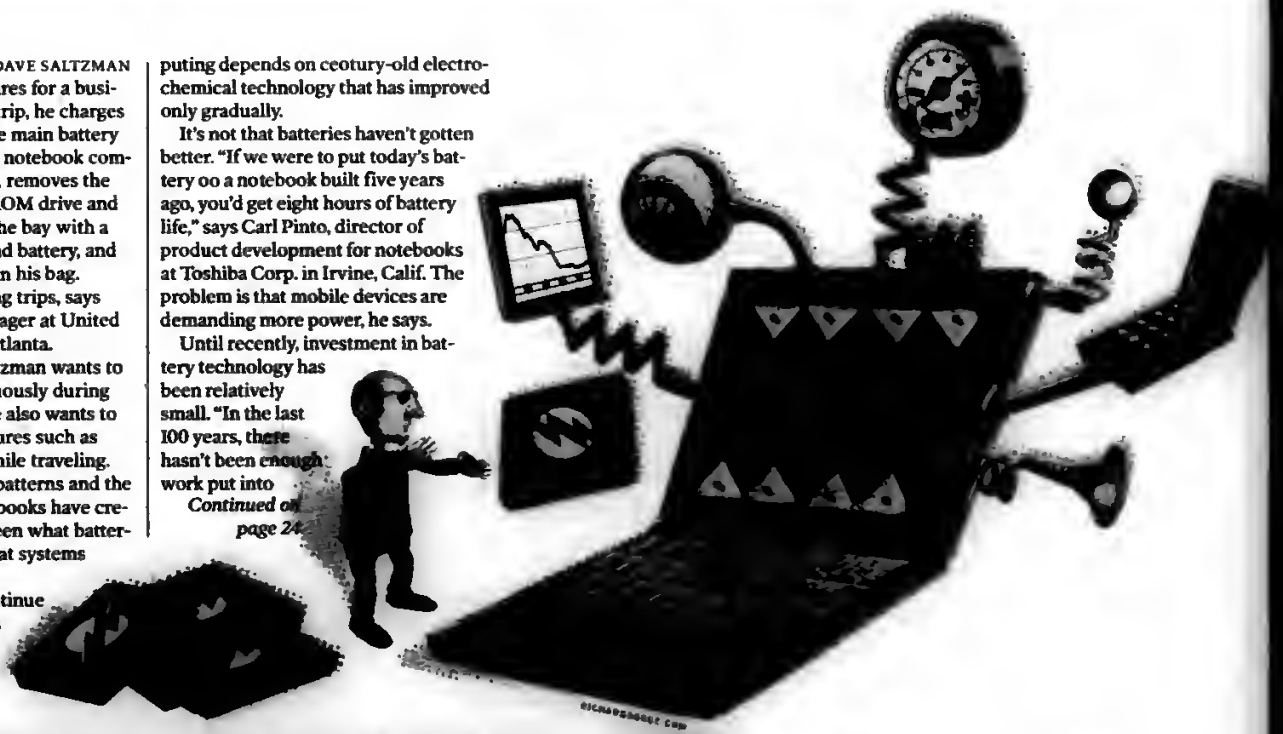
SECURITY MANAGER'S JOURNAL
Enough! I Quit!
C.J. Kelly wanted to make a difference in her work environment eveo in the face of an abusive and out-of-control boss. In the end, though, she decided she had done as much as she possibly could. **Page 30**

OPINION
Supercomputing Goes Global
Consultant Mark Willoughby says that the evolution of supercomputing will lead to some unexpected and strange virtual alliances. **Page 31**

ILLUSTRATION BY RICHARD BRO

MOBILE COMPUTING'S Energy Crisis

Battery technology hasn't kept up with twin demands of taking up less space and powering more features in disconnected computing devices. By Robert L. Mitchell



WHEN DAVE SALTZMAN prepares for a business trip, he charges up the main battery in his notebook computer, removes the CD-ROM drive and fills the bay with a second battery, and then packs a third one in his bag. That's sufficient for long trips, says Saltzman, systems manager at United Parcel Service Inc. in Atlanta.

Like many users, Saltzman wants to be able to work continuously during extended flights, but he also wants to use power-hungry features such as wireless networking while traveling. These changing usage patterns and the demand for faster notebooks have created a power gap between what batteries can provide and what systems can deliver.

While ootebooks continue to benefit from Moore's Law, batteries haven't kept up. The future of disconnected computing depends on ceotury-old electrochemical technology that has improved only gradually.

It's not that batteries haven't gotten better. "If we were to put today's battery oo a notebook built five years ago, you'd get eight hours of battery life," says Carl Pinto, director of product development for notebooks at Toshiba Corp. in Irvine, Calif. The problem is that mobile devices are demanding more power, he says.

Until recently, investment in battery technology has been relatively small. "In the last 100 years, there hasn't been enough work put into

Continued on page 24

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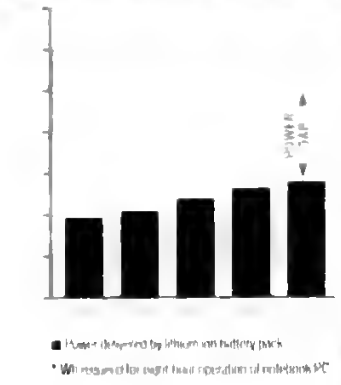
to perform service at the depot repair center. Calls must be received by 5pm local time in order to qualify for Next Business Day service. **(10) Full-size keyboard:** As defined by ISO/IEC 15412. **(11) Thinness:** may vary at certain points on the system. **(12) Travel weight:** includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay. If applicable, weight may vary due to vendor components, manufacturing process and options. **(13) Public network access limited:** Subscription may be required and fees may apply. **(16) SuccessLease:** SuccessLease program rates and terms are provided by third-party financers approved by IBM Global Financing to credit-qualified business customers installing in the U.S. Featured monthly lease payments based on prespecified end-of-lease purchase option, documentation fee and first month's payment due at lease signing; taxes are additional. Options cannot be leased separately. IBM and IBM Global Financing reserve the right to alter product offerings, specifications or financing terms at any time, without notice. **(21) Battery Life:** Based on manufacturer's published figures or CNET.com results for the top 5 vendors in 2003 notebook sales based on IDC data as of 1/29/2004. **Visit www.ibm.com/pc/us/accessories periodically for the latest information on sale and offerings.**

POWER GAP FOR NOTEBOOK COMPUTERS



■ Power delivered by lithium ion battery pack

* Wh required for eight hour operation of notebook PC

Continued from page 21

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But battery life has risen to become one of the top three purchase criteria for notebook computers, says Mike Trainor, chief mobile technology strategist at Intel Corp., which produces logic boards and chip sets used by the majority of notebook makers. "IT shops want more performance, more wireless and slimmer systems, which cuts down the room for batteries," he says.

Intel's Centrino mobile chip set has reduced power consumption, extending projected operating times from two to three hours into the five-hour range, which is still short of the all-day battery users want. Eight hours of life would require 100 watt hours (Wh) of power, but the best available battery technology — lithium ion — delivers less than 60Wh.

Trainor is confident that Intel can "give Moore's Law's worth of features" through the end of the decade while keeping consumption at the 100Wh mark. But that still leaves a power gap. "The other side of the equation has become equally important: How do we get more energy into the system?" he says.

Vendors have recently awakened to the problem, but government and private research and development dollars have poured into fuel-cell research rather than into basic battery designs. The direction of investment away from batteries has contributed to today's power gap, contends Donald Sadoway, a professor of materials engineering at MIT. "They put all of their eggs in one basket. Here we are, seven or eight years later, and fuel-cell applications are nowhere near to realization," he says.

Users are feeling the pain. Tony Scott, chief technology officer at General Motors Corp., says Centrino-based notebooks have improved battery efficiency 20% to 30%, but actual operating times remain under three hours. That's not always enough when people bring such computers to meetings, says Scott.

"If you get two back-to-back one-hour meetings and you're making any significant use of the machine at all, you can start running into problems. And three meetings in a row — forget it," he says. "We need eight-plus hours of use, and that's a struggle with a lot of the devices we have today."

For Saltzman, the battery issue goes beyond notebooks. He manages 200,000 battery-powered devices at UPS, including radio-enabled handhelds used in delivery trucks. The batteries don't charge well in hot or cold weather, so charging must be done at the dispatching location. And because drivers are on the road for up to 10 hours, UPS must use bigger batteries, which adds weight to the devices. Saltzman would like to see higher energy densities to reduce weight.

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Battery manufacturers have made incremental improvements in lithium ion batteries since they were introduced in the early '90s, says Kurt Kelty, director of business development at Panasonic Energy Solutions Lab, a unit of Princeton, N.J.-based Panasonic Technologies Inc. Over the past five years, lithium ion batteries have replaced nickel cadmium (NiCd) and nickel metal hydride (NiMH) technology in mobile computing devices. Lithium ion offers a higher volumetric energy density. It also doesn't suffer from the memory effects that shorten the life span of NiCd batteries. And it's environmentally superior to NiCd, which faces a gradual phaseout because cadmium is toxic, making it a hazard in the waste stream.

While nickel-based chemistry has reached its capacity limit, lithium ion continues to make small gains. In recent years, capacity has increased at a rate of about 10% per year, while competition has reduced prices at 10% to 20% annually, Kelty says.

Although lithium ion hasn't yet hit the theoretical capacity limit, the industry consensus is that future gains will be unlikely to close the power gap. That conclusion has spurred renewed interest in battery research.

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"Under certain conditions, lithium ion batteries can go into a thermal runaway event where they can burn at up to 800 degrees Celsius," says Joe Lamoreux, vice president and general manager at Valence Inc. in Southlake, Texas. Valence makes an external lithium ion polymer battery pack for notebooks that replaces the traditional cobalt oxide with a more benign phosphate technology that he says eliminates the risk. The trade-off: The batteries are more expensive, and power density is about 20% lower than cobalt-based lithium ion.

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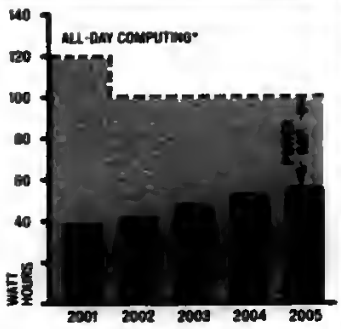

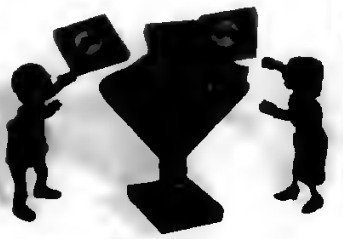

Richard Gorski

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SOURCE: CADEX ELECTRONICS INC., RICHMOND, BRITISH COLUMBIA

	PROS	CONS
Nickel cadmium (NiCd)	Can deliver high levels of power at a very low cost and recharges quickly.	Low energy density; suffers from memory effect that can cut battery life if battery isn't maintained properly. Cadmium batteries are environmentally unfriendly and likely to be phased out.
Nickel metal hydride (NiMH)	Supports high-discharge rates well; delivers more power for its size than NiCd; no memory-effect issues.	Lasts for 300 to 500 charge cycles vs. 1,500 for NiCd.
Lithium ion	Combines high energy density and light weight. No memory-effect issues. Same cycle life as NiMH.	Relatively expensive. Volatile chemistry requires special safety mechanisms and strict manufacturing controls.
Lithium ion polymer	Same characteristics as lithium ion but can be molded into very thin shapes.	More expensive than traditional lithium ion.
Rechargeable alkaline	Discharge rate is low when not in use: 0.3% per month vs. 10% for lithium ion and 30% for NiMH.	Limited to about 50 charge cycles vs. 300 to 500 for lithium-based batteries.
Direct methanol fuel cells	Long run times, which can be extended by refueling the device.	Still at prototype stage; mature products not expected before 2010. Complex to build. Inefficient process generates waste heat; reacts too slowly to peak load demands.

sive than lithium ion and hasn't improved energy density. But it does have one advantage: Polymer-based cells can be formed into flat shapes that fit into small devices, while lithium ion is limited to cylindrical cell designs.

Pionics Co. in Shiga, Japan, has shown a prototype battery with an energy density of 600Wh/liter. Most of today's lithium ion batteries fall into the 200Wh to 250Wh/liter range, says Atakan Ozbek, principal analyst at ABI Research in Oyster Bay, N.Y. Still other vendors are working on designs based on materials such as lithium sulphur and lithium phosphate.

Even the traditional alkaline battery may get back into the game. With zinc-based alkaline batteries, it has been difficult to get more than 10 recharge cycles, says Robert Zeiler, president of Zinc Matrix Power Inc. in Santa Barbara, Calif. The company has replaced the alkaline battery's traditional electrolyte solution with a polymer-based formula that extends the number of recharge cycles. "We can get hundreds of cycles," with an energy density of 600Wh/liter, he says. The company has an agreement with Intel and says it will have a commercial notebook battery in production by 2006.

While Intel has invested in the more promising companies, Trainor is realistic about early claims. "What we have not seen is anyone manufacture these cells in high volume," he says.

Fuel-Cell Frenzy

For the long term, most vendors have pinned their futures on fuel cells. Government and private investments in fuel-cell research have been substantial, and more than 60 companies are working on designs to power electronics, says Jim Balcom, president and CEO of PolyFuel Inc. in Mountain View, Calif.

Fuel cells combine a fuel such as hydrogen or methanol with oxygen in an electrochemical reaction. The most popular design, the direct methanol cell, uses methanol or a methanol/water mix. Fuel cells show promise in delivering dramatically higher energy densities, and the ability to swap out fuel cartridges could guarantee a virtually endless power supply. As little as 1cc of fuel can generate 1Wh of electricity — enough to power a cell phone for about two hours, says Alan Soucy, chief operating officer at MTI MicroFuel Cells Inc. in Albany, N.Y.

But the technology faces several challenges. Fuel-cell systems are complex, requiring an engine, or "stack"; tiny pumps, sensors and other electronics; a venting system; and a fuel tank (see diagram below). Squeezing them into something the size of a notebook battery that can be sold at a reasonable price and that works reliably is a major engineering hurdle.

Fuel cells are also relatively inefficient — turning 70% of the energy they produce into waste heat vs. 10% for batteries — which is a problem for notebook designers, who are already facing thermal challenges. And the systems vent small amounts of carbon dioxide and water vapor.

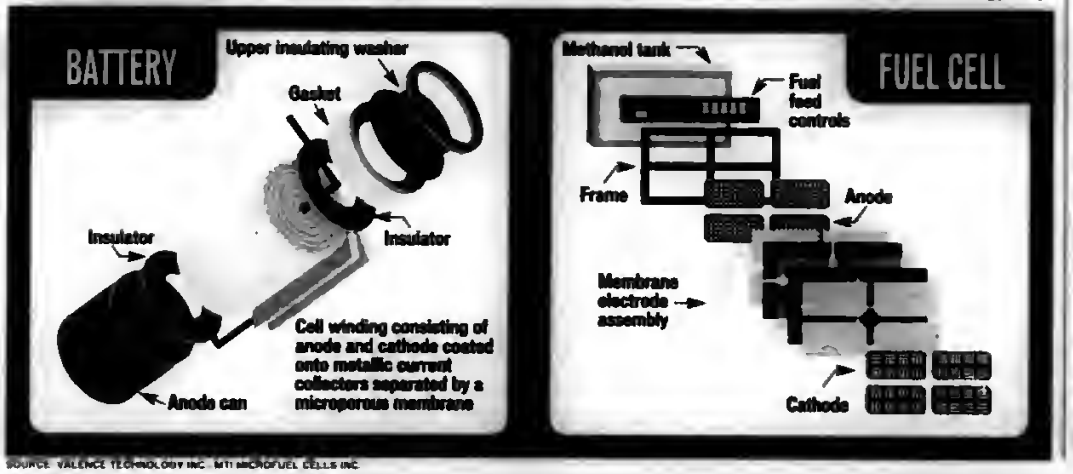
Fuel cells also don't respond well to sudden spikes in power demand, so early designs, such as Intermec Technologies Corp.'s fuel-cell-powered IP3 radio frequency identification (RFID) reader prototype, are coupled with a lithium ion battery. The IP3 fuel cell, an MTI design, trickle-charges the battery in addition to directly powering the RFID reader. The unit runs for 30 hours on a 55cc fuel cartridge compared with about 10 hours for a traditional battery. Other vendors are experimenting with ultracapacitors, solid-state devices that can deliver short bursts of supplemental power to handle peak loads.

"Toshiba's big investment is in fuel cells," says Pinto. Toshiba, Hitachi Ltd. and NEC Corp. have shown prototype "swap bay" designs that attach to a notebook or handheld, with internal units to follow. But real products won't come until standards are ironed out. A standard fuel mix and cartridge design is needed for broad acceptance, and regulators still need to approve its safety and use, particularly on airplanes. Getting Federal Aviation Administration approval to carry the flammable methane tanks onboard commercial flights may not be easy, given the agency's recent ban on butane lighters.

ABI Research's Ozbek says fuel-cell makers have made significant strides in the past six months, reducing the package size by 50% while surpassing the energy density of lithium ion in test units. Early fuel-cell power packs will ship this year and next, ramping up to a few thousand units in 2007. "Then it's going to be millions by 2010," he says.

In the interim, users will have to make do by dimming screens and using the power-saving features available to them. Those features can help, says GM's Scott.

But power-saving designs alone aren't going to close the power gap, he adds. "Batteries have been the boat anchor in terms of real progress." QuickLink 51428



SOURCE: VALENCE TECHNOLOGY INC., MTI MICROFUEL CELLS INC.

TAKING CHARGE

Filling the Energy Gap: Supercapacitors can improve battery efficiency by providing short bursts of power
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FAST-MOVING DEVELOPMENT

Architected rapid application development tools increase productivity and attention to business needs.

[illegible] tools for boosting developer productivity are gaining popularity with companies seeking to streamline increasingly complex projects by homing in on business requirements rather than technical specifications.

Architected rapid application development (ARAD) software uses patterns that can serve as building blocks to generate common parts of an application — a user interface or a set of business rules, for example. Architects and senior designers can build their own templates, which can then be reused by programmers to automatically generate large chunks of code.

Because the tools often generate as much as 80% of native code, developers can add business logic and complete applications faster than they can with traditional development methods, according to industry analysts and users. Compuware Corp., IBM and Computer Associates International Inc. are among a growing number of vendors creating and improving ARAD tools.

Locus Systems Inc., a Markham, Ontario-based application developer and systems integrator, started using Compuware's OptimalJ ARAD tool to keep its operations competitive when faced with outsourcing pressures, says Richard Blais, Locus general manager.

"This [illegible] is like outsourcing internally," Blais says. "It's like having Bangalore in a box — it gives us that much of a competitive advantage."

So far, Locus has used OptimalJ to generate 65% to 70% of the code for three applications, saving developers several hours of work and substantially reducing the number of bugs found in first-iteration testing, Blais adds.

The Advanced Development Center of Austin has used CA's AllFusion Plex to help it streamline application development and maintenance for its clients, says Bryan Schwiening, the center's general manager of services and sales.

"All of the minor details of the program are generated," he says. "You find yourself architecting and designing and doing less programming."

In addition, the tool has eased the process of changing applications, allowing users to exploit existing IT investments, Schwiening says. "If they decide they want to Web-enable part of an application, I can generate part of this application or all of it to run in a Web server environment," he says. "The next time I regenerate business logic, I don't lose that HTML look and feel that I have built."

According to a recent Gartner Inc. study, ARAD tools will be mandatory for mainstream companies moving to build service-oriented applications. The study noted that ARAD tools improved return on investment to as much as 15 times what it had been when traditional development approaches were used.

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In addition to productivity gains, users reported substantially lower than expected tool acquisition and training costs, the study says. Most organizations reported recouping the investment after one year.

OptimalJ straddles traditional modeling and integrated development environment (IDE) approaches, says Mike Burba, Compuware's OptimalJ program manager. It's designed to take the object-oriented analysis of modeling tools to a higher level of abstraction and has a transformation engine that maps the business model into application frameworks, he says.

"Like an IDE, it allows you to get into that application that is generated and . . . edit code," Burba says. "ARAD tools know how to preserve the changes on existing code."

Benefiting the Business

Royal Bank of Canada has used OptimalJ to more closely link development to business issues, such as customer service, says David Hewick, group manager for application architecture at the Toronto-based bank. It has used the tool in a pilot to build a Web-based J2EE application, and Hewick estimates that developers can gain 25% to 30% productivity compared with using a traditional J2EE approach.

"It was an opportunity to improve the development life cycle, reduce costs and bring consistency," Hewick says. "The modeling environment institutionalizes a lot of the underlying architecture. It generates a lot of the code we don't have to write, to test. That translates into time developers can spend on business issues."

IBM is revamping its approach to ARAD by focusing on its new Rational Software Modeler modeling tool and Rational Software Architect design and development software that were announced in October. The tools are designed to replace the Rational Rapid Developer tool, which IBM will continue to support but no longer market.

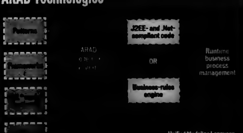
CA also announced a new release of AllFusion Plex that uses patterns to automate development for Windows, J2EE and IBM i5/OS environments. New features include the ability to create business logic components that can be exposed as Web services or components to .Net-based applications.

David Kelly, president of Upside Research Inc. in Newton, Mass., says his clients have reported significant benefits from using ARAD tools, including lower development time and costs.

"These tools are certainly light-years ahead of the old client/server, model-driven development tools that were typically too cumbersome, too difficult to get the reuse out of . . . and generally just didn't deliver on the ROI," he says.

But he notes that using the tools requires developers to adopt a new mind-set when building applications.

"Developers have almost a cowboy-type mentality — to code quickly and get on with the next thing," Kelly says. "To gain the benefits, you have to have a little bit of discipline — put the effort into finding the right patterns and right architecture and ensure the developers and architects are using the tools and processes consistently." 51559



AT A GLANCE

ARAD Tools

- [illegible]
- [illegible]
- Are designed to be used to repurpose applications to new environments like the Internet more easily because developers can exploit existing underlying code and add only new business logic
- Can post ROI gains ranging from 2 to 1 up to 15 to 1 in comparison with traditional development approaches, according to a Gartner study

FAST-MOVING DEVELOPMENT

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"Like an IDE, it allows you to get into that application that is generated and ... edit code," Burba says. "ARAD tonls know how to preserve the changes on existing code."

Benefiting the Business

Royal Bank of Canada has used OptimalJ to more elosely link development to business issues, such as customer service, says David Hewick, group manager for application architecture at the Toronto-based bank. It has used the tool in a pilot to build a Web-based J2EE application, and Hewick estimates that developers can gain 25% to 30% productivity compared with using a traditional J2EE approach.

"It was an opportunity to improve the development life cycle, reduce costs and bring consistency," Hewick says. "The modeling environment institutionalizes a lot of the underlying architecture. It generates a lot of the code we don't have to write, to test. That translates into time developers can spend on business issues."

IBM is revamping its approach to ARAD by focusing on its new Ratiooal Software Modeler modeling tool and Rational Software Architect design and development software that were announced in October. The tools are de signed to replace the Rational Rapid Developer tool, which IBM will continue to support but no longer market.

CA also announced a oew release of AllFusion Plex that uses patterns to automate development for Windows, J2EE and IBM i5/OS environments. New features include the ability to create business logic components that can be exposed as Web services or components to .Net-based applications.

David Kelly, president of Upside Research Inc. in Newton, Mass., says his clients have reported significant benefits from using ARAD tools, including lower development time and costs.

"These tools are certainly light-years ahead of the old client/server, model-driven development tools that were typically too cumbersome, ton difficult to get the reuse out of ... and generally just didn't deliver on the ROI," he says.

But he ootes that using the tonls requires developers to adopt a new mind-set when building applications.

"Developers have almost a cowboy-type mentality — to code quickly and get on with the next thing," Kelly says. "To gain the benefits, you have to have a little bit of discipline — put the effort into finding the right patterns and right architecture and ensure the developers and architects are using the tonls and processes consistently." 51550

AT A GLANCE

ARAD Tools . . .

- Focus on the use of patterns to serve as building blocks to automatically generate common parts of an application
- Can generate as much as 80% of "housekeeping" parts of applications, such as user interfaces and business rules that can be reused
- Are designed to be used to repurpose applications to new environments like the Internet more easily because developers can exploit existing underlying code and add only new business logic.
- Can post ROI gains ranging from 2-to-1 up to 15-to-1 in comparison with traditional development approaches, according to a Gartner study.

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DAVE PLUNKERT

WHO'S THE Smartest OF THEM ALL?

Social software uncovers the true experts. BY JULIA KING

BEFORE BUILDING a walkway through a garden, college campus or office park, an experienced landscaper carefully studies where people walk naturally to discover the best routes between popular destinations.

Hewlett-Packard Co. researcher Bernardo Huberman and his team at the Systems Research Center at HP Labs are using a similar strategy to study how e-mail flows through organizations. The idea is to uncover natural "communities of interest" that can be tapped to make smarter decisions and more accurate business predictions.

Using an algorithm that measures "betweeness centrality" — a measure of the prominence of individuals in a social network — Huberman and his team classified hundreds of thousands of e-mail messages by how they traveled within certain HP divisions. They discovered that day-to-day work was often accomplished by self-selected teams of people who don't show up as a group on a formal organization chart. They theorized that members of the groups actually made up de facto teams of experts whose business decisions would outperform those of the formal experts.

To prove the theory, Huberman and his collaborators had 15 HP managers distributed around the globe place bets on projected monthly revenue and profit figures for an HP division. The research team developed an algorithm to account for variations in the managers' attitudes toward risk. As an incentive, Huberman also provided the managers with a small amount of cash that would increase or decrease, depending on the accuracy of their predictions.

Accurate Predictions

In the end, the group of managers consistently predicted the financial outcomes more accurately than an expert financial software tool the division had been using to forecast the figures.

Huberman says the test could also be conducted by pitting the informal group against a formal group of decision-makers, and the results would be the same. The reason is that the information used to predict a business outcome is aggregated from the best possible sources, even though their high level of knowledge may not be reflected in their job titles.

He also notes that only nominal incentives are needed to persuade undeclared experts to do their best. "Just putting up a little bit of money — less than $100 — makes people behave differently," Huberman says. Moreover, money isn't necessarily a requirement. "People in companies are concerned about their status. If they predict well, call them 'dukes' or 'barons.' There are ways to enhance people's status other than giving them financial compensation," he says.

FUTURE WATCH

Brian Whitworth, a researcher and assistant professor of information systems at the New Jersey Institute of Technology in Newark, has written several academic papers on social computing. He says Huberman's ideas and work leverage the social environment of the Internet.

People have traditionally viewed the Internet as a physical system only, when it's really a physical and social system because the physical network connects people, Whitworth says.

Huberman is mediating the interactions between people linked over the Internet, Whitworth says. He believes this is destined to be the decade of social computing, where all software is at least "group aware," as it is under Huberman's model, if not groupware.

Indeed, Huberman says he has a notion of ultimately "building an enterprise knowledge navigator" that would allow organizations to harvest all of the knowledge in people's heads, "and not just what's in documents that are stored on a server somewhere." Communities of interest and expertise could be established not just by studying e-mail flows, but also by studying the kinds of documents people access and the Web sites they visit.

To that end, Huberman's team has developed a peer-to-peer system that automatically creates profiles of users based on those activities and stores them on their PCs. This way, users can reach so-called undeclared experts.

Undeclared Experts

For example, if someone in an organization wants to know of a good restaurant in Beijing, the system will automatically send that user's query to only those employees whose profiles fit the request. Likely candidates could include people whose travel vouchers show trips to China or whose human resources records show Chinese language skills.

"This way, knowledge gets declared automatically," Huberman explains. "Some people call it social software. What we're trying to do is harness the power of the implicit. The idea that guides our work is to go and uncover all that implicit knowledge in order to gain an understanding and then to use it in interesting ways."

For starters, he says, corporations could use the technique to understand how work really gets done as opposed to how a company is formally organized.

Information from various communities of interest could also be used to supplement known experts' knowledge. For example, medical researchers might be able to predict disease outbreaks sooner by studying the purchase patterns of certain medicines at pharmacies.

Huberman acknowledges that there are issues of privacy that must be resolved in order for his techniques to be applied. However, within a single organization, all e-mail generally belongs to the organization, which is why his techniques will most likely be used within companies, at least initially.

Huberman says HP has applied for patents on all of the algorithms developed as part of his social software research. How they will surface in the marketplace remains to be seen, however. Besides helping HP manage its internal business, they could also end up as services for sale commercially in the next two years or so.

The one big remaining question, says Huberman, is, "Would you pay to use this?"

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MORE RESOURCES

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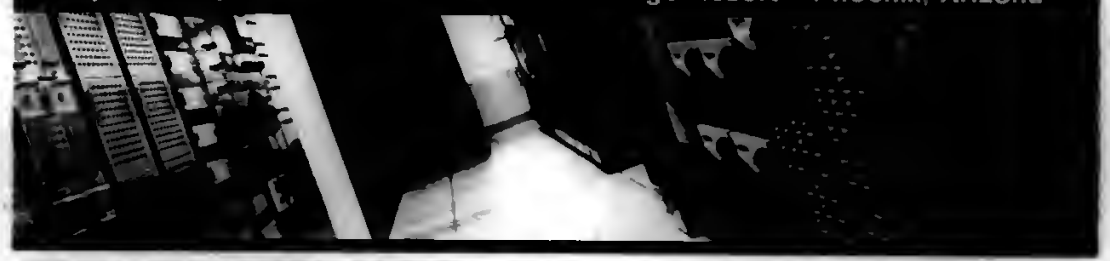

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Enough! I Quit!

Our security manager can handle viruses and hackers, but an abusive boss is another story. By C.J. Kelly

HAVE YOU EVER felt that no matter what you said or did, it didn't matter? In the security manager's position I've been writing about for the past few months, I've tried multiple ways of changing the dynamics of a very difficult situation. I relied on my "personal power": a big smile; endless patience; a team-based, collaborative approach; technical abilities; project management skills — you know, all the professional stuff. But in the end, none of it mattered, and I resigned.

SECURITY MANAGER'S JOURNAL

I've never used positional or political power to get things done. I just don't admire those approaches. If you have to pull rank to get people to do things, then you've overlooked a very important part of managing people.

What does a person like me do when reporting to someone who values positional and political power above all else? I don't know!

I spent more time than I thought was appropriate trying to understand what my manager was trying to accomplish (other than the stated goals and objectives) and how she was maneuvering through the corporate system. I knew that if I didn't understand what she was really after, I would be chastised for something that didn't go down the way she wanted it to. My manager had a tendency to lose her temper; her red face, wild hand gesturing and desk pounding are funny only in retrospect.

It was clear that a top executive was my manager's political connection, and the nature of that connection stirred a lot of speculation. My manager certainly wasn't discreet about it; she dropped his name often. Everyone knew that if you crossed swords with her, the executive would learn about it that evening and hand down an edict the following day.

There were no debates; she didn't value other people's input. She even said to me, "If everyone will just do what I tell them to do, everything will be fine." Well, OK, I've said that to my kids, but a boss isn't a mom.

Some situations were so ludicrous, I didn't know whether to argue or burst out laughing. I took to writing down everything she said in case she challenged me on something. One day she wanted things done one way, and the next day she wanted them done another way, and she could never remember which we had agreed upon.

Here's an example of her managing prowess. We had an earthquake the other day. My manager, who was in charge of disaster recovery, came out of her office screaming for everyone to get under their desks. I looked at the modular furniture in my cubicle and thought better of it. My manager was furious that we weren't doing as she said, but she was so frightened that she ran back into her office and hid under the desk. At that moment, I was afraid for the company if a real disaster should occur. She exhibited similarly out-of-control behavior during a bomb scare.

> **Some situations were so ludicrous, I didn't know whether to argue or burst out laughing.**

Hoping for Change

I didn't quit until I had done what I could to try to change the situation. I identified two key executives to discuss the issues with.

The first, the most senior HR executive, was fairly new and most likely unfettered as yet by political loyalties. In a short meeting, I explained that I wanted to get my manager some help, maybe through the employee assistance program. I described the emotional tirades that she was prone to and asked the HR executive to assess the situation personally. I made it clear that I didn't want my manager's job, but rather was concerned for my colleagues and the company's success. She agreed to look into the matter.

A couple of months later, things were worse, and I met with the HR executive again. This time she said my complaints weren't about behavior that she had to report, like sexual harassment. Dead end.

Next up was my manager's manager, who is at the C level. He's an approachable guy whom I've known for a decade. I laid everything out for him: my conversations with HR, examples of the craziness that we experienced daily, low morale in the group (a result of being ripped to shreds during quarterly reviews), my manager's obvious lack of management skills, her technical cluelessness (which made it difficult to educate her enough so she could make wise decisions), her political connection with his colleague.

I figured I had nothing to lose. I was prepared to be escorted from the building, though I was hoping this executive had enough clout so that our department could report to someone else.

But nothing happened. I had a follow-up conversation a month later to find out if the executive had come up with any ideas. His one suggestion was to have his direct reports go through a 360-degree review process as soon as possible. He told me that the executive staff never sees the side of her that I had described. I told him they never would except in an extreme circumstance. I realized then that he either was politically and positionally powerless or had decided that if I didn't like things, I could leave on my own terms, absolving him of having to do anything.

I read a story recently about a state official who escaped impeachment after two former employees had ratted on her for using state resources and equipment for her political campaign. A reporter asked the official how she was going to change her management style in response to accusations that she was verbally and mentally abusive to the former employees. Her confident response was that she wasn't going to change her style at all. The employees were just disgruntled, the official said, and it had nothing to do with her.

Am I disgruntled? Nope. I just moved on. I love my work and enjoy working with talented people. Security professionals are in demand, especially those with multiple technical certifications and advanced degrees. I had three offers within two weeks, and I'm in the process of deciding where I'll land next.

But the people who worked for me, who have also suffered abusive behavior, are hopeful that my highly visible resignation will inspire the organizational change that needs to happen. Hope springs eternal.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussion in our forum: QuickLink a1500

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SECURITY LOG

Cybersecurity Center Formed

The Center for Information Assurance and Security (CIAS) has been founded at the University of Texas at Austin. Headed by Frederick R. Chang, the CIAS states that its mission is to conduct research that will lead to innovative cybersecurity solutions as well as address the need to produce more trained professionals in the field. Chang moved from his position as president of technology strategy at SBC Communications Inc. to the university's computer science department to lead the center's efforts. The CIAS will operate as a multidisciplinary initiative involving business, government and academia.

Spyware Tops One '04 Malware List...

For the first time, a Trojan horse had the list of most damaging malicious code released in a year. In 2004, the Downloader.BK Trojan accounted for 14% of all attacks, according to Panda Software SL. Rounding out the top 10 pieces of malicious code detected by Panda ActiveScan were Netsky.P, accounting for 6.92% of all attacks; Sasser.Ftp, 4.87%; Bagle.gen, 4.31%; Mytob.gen, 4.22%; Netsky.D, 3.89%; Downloader.I, 3.59%; Qhost.gen, 3.49%; Netsky.B, 3.48%; and Startpage.FH, 3.24%.

...But McAfee Sees Other Threats

According to McAfee Inc., adware and spyware represented the top threats in 2004. The security firm said that the top 10 cyberthreats identified by its Anti-virus and Vulnerability Emergency Response Team were, in alphabetical order, Adware-CBO, Adware-Gator, Exploit-ByteVerify, Exploit-MhtRedir, JS/FunCom, W32/Bagle, W32/Mydoom, W32/Netsky, W32/Rbot and the W32/Sdbot family.

BRIEFS

Cognos, Intentia Form Partnership

■ Cognos Inc. and Intentia International AB have announced a technology alliance. Stockholm-based Intentia will augment its products with Cognos enterprise performance management tools on a J2EE architecture optimized for IBM WebSphere and hardware running on Linux and Windows servers. Intentia's data warehousing platform is designed to consolidate and integrate business information from all of Intentia's applications into preloaded business-measurement models. Tools from Ottawa-based Cognos will depict this information graphically and monitor key performance indicators to support corporate planning, according to the companies. The companies will also expand their joint sales, marketing and development activities.

HP Banks on Itanium Servers

■ Hewlett-Packard Co. announced that it expects Itanium-based servers to account for more than half of its business-critical server sales by the end of 2005 and for 70% of those sales in 2006. The company made the forecast last month when it announced that Intel Corp. had agreed to hire HP's Itanium design team. HP and Intel co-developed Itanium.

Dialpad Launches VoIP Calling Service

■ Dialpad Communications Inc. in Milpitas, Calif., announced DialpadUSA, a voice-over-IP calling service. DialpadUSA users can make an unlimited number of calls to the U.S. and Canada at a cost of $11.99 per month for consumers and $29.99 per month for small-business users. Customers will receive a broadband adapter and a Dialpad dpPhone, which bridges the gap between VoIP and the traditional phone network. Combining the networks lets users make outbound phone calls during power or network outages, according to Dialpad.

MARK WILLOUGHBY

Supercomputing Goes Global

SIZE MATTERS IN SUPERCOMPUTERS because size translates into speed. And supercomputers are all about speed. The quest for the fastest computer to discover new drugs, crack ciphertext or model global weather and nuclear reactions has set a lot of records in a short time.

Supercomputers are defined loosely by IDC as systems that cost more than $1 million and are used in very-large-scale numerical and data-intensive applications. Today, their power is measured in trillions of floating-point operations per second, or TFLOPS.

The current world record for computing speed is 70.72 TFLOPS, posted in November by IBM's BlueGene/L system, which is destined for the U.S. Department of Energy's Lawrence Livermore National Laboratory. But supercomputers run as much on the testosterone of competition as on DC power, so the latest performance benchmark isn't likely to last very long.

Claiming bragging rights as the world's fastest computer has been a 20-year game of technical leapfrog, involving almost as many companies as have been delisted by Nasdaq this year. The contest spans the globe. There's considerable national pride invested in the quest to build a faster machine to discover that next subatomic particle lurking just beyond the bandwidth of today's champ.

An architectural shift took place in supercomputing in the 1990s, and that shift was the background for a legendary wager. Gordon Bell, principal designer at the venerable and defunct Digital Equipment Corp., bet Danny Hillis that the world's fastest machine at the end of 1995 would be a supercomputer with fewer than 100 processors. Bell was betting against the inexorable march of technology, saying that the bugs could not be worked out of massively parallel machines before the deadline. Hillis, a professor in MIT's artificial intelligence lab and a founder of gone-but-not-forgotten Thinking Machines Corp., was an early proponent of massively parallel computing. Smart money backed Hillis.

Hillis lost the bet. He was slightly ahead of his time because massive parallelism is more of a software problem than a hardware problem. Software developments rarely keep pace with hardware breakthroughs.

Back then, supercomputers were measured in millions of FLOPS. Since then, even supercomputers with performance in the billions of FLOPS have been relegated to the dustbin of computing history, alongside Digital and Thinking Machines. The new IBM BlueGene/L world champ has 16,384 dual-core processors grouped in 16 clusters, with each processor linked to one of five internal communications buses.

The evolution of supercomputers is like that of factory power in the Industrial Age. The first large factories were served by big, expensive, centralized power plants driving overhead belts and pulleys that powered every device in the factory — a lot of hardware. Early supercomputer architects likewise struggled to advance their machines, using hardware from a few big, expensive, specialized processors.

This centralized factory power architecture gradually gave way to more and more decentralized power located closer to the users; steam gave way to electricity. The supercomputers in use when Bell and Hillis were matching wits were a milestone on that evolutionary path to distributed, or massively parallel, hardware with a different type of fuel.

Ultimately, little electric motors were powering factory devices in the hands of each and every worker, with thousands of power tools distributed along the production path. The historic wager between Bell and Hillis could be made again today for the year 2010. The future of supercomputing lies in greater scale in the number of processors used. The world's FLOPS champion at the end of the decade could well be using more than 1 million processors.

The world's most powerful supercomputer likely will evolve into a grid architecture of loosely coupled systems harnessed logically to a single task across a global network. A grid holds the most promise for delivering the biggest and baddest theoretical supercomputing architecture imaginable, a virtual multiple-instruction/multiple-data, or MIMD, global supercomputer.

Grid architectures rely more on specialized software than on fast hardware, and they're attracting lots of research. Users in the interconnected world of 2010 will be able to make a Faustian bargain, joining a global supercomputing grid to sell their unused compute cycles to the highest bidder. Imagine American teens selling FLOPS from video game or MP3 players to Asian weapons designers, or vice versa. It's like taking electric current from a windmill and making your power meter go backward. Anybody care to make a wager? 51696

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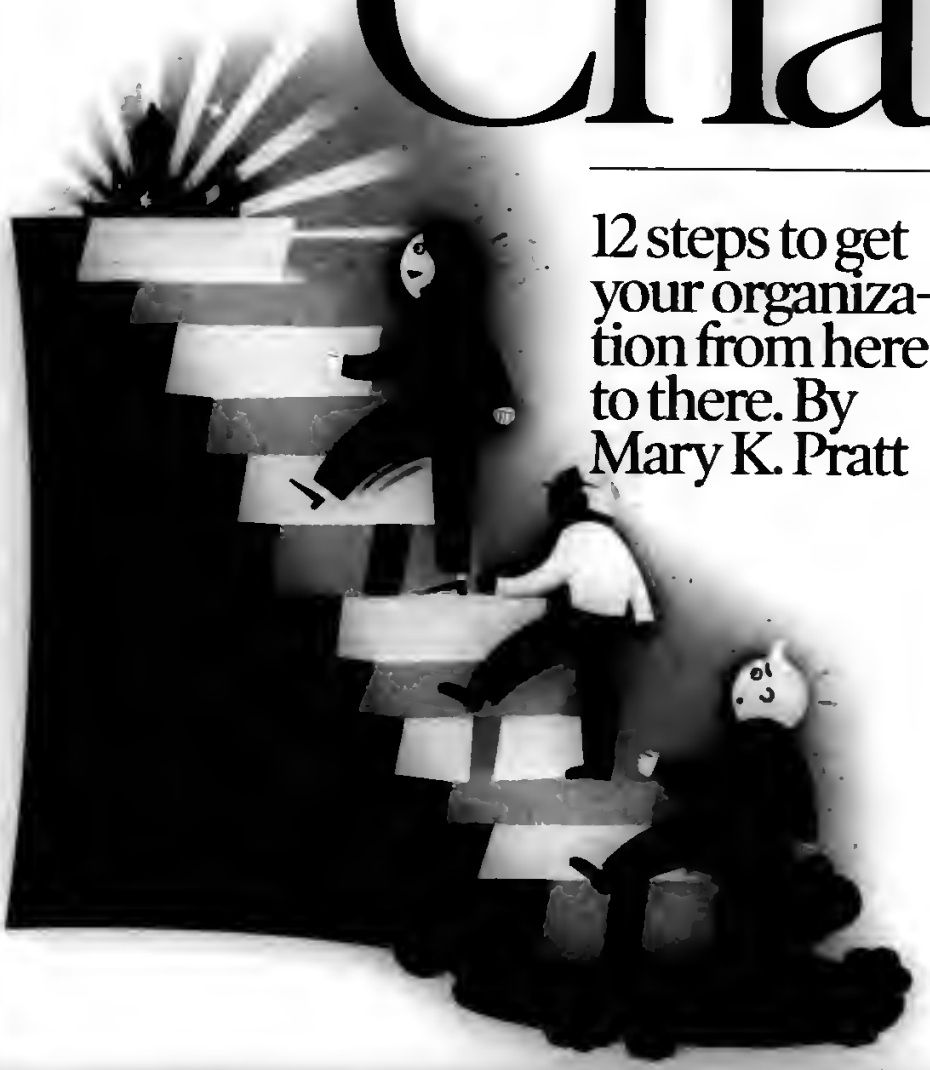
Q&A
Brain Overload
The stress of work can cause your higher brain functions to shut down, says renowned psychiatrist Edward M. Hallowell. He offers some tips on how to keep those neurons firing. **Page 37**

Think Tank
Bangalore's runaway success as an IT outsourcing destination has overloaded the city's infrastructure, resulting in traffic nightmares and other woes. Plus, a new book helps IT managers build privacy into their systems from the outset. **Page 38**

OPINION
Growing New IT Managers
If you're thinking of hiring your next generation of IT managers, think again, says Paul Glen. Growing them yourself is a much better investment. **Page 40**

LEADING Change



JOHN WELAND

12 steps to get your organization from here to there. By Mary K. Pratt

GAIL HOLMBERG has to deliver more than a working system when she deploys a new initiative. "It's not a success for the company if that's all that happens," says Holmberg, CIO at Bally Total Fitness Holding Corp. in Chicago. Workers have to actually *use* the new product to improve how they do their day-to-day jobs.

Sounds simple, but IT executives know that managing change is a challenge. Staffers are usually quite comfortable with the status quo and often initially see change as more disruptive than helpful.

"Even when change is very positive, it's a challenging thing for people to go from how they do things today to what they'll be doing tomorrow," says Mary C. Finlay, deputy CIO at Partners HealthCare System Inc. in Boston.

Such challenges shouldn't stop any organization from going ahead with changes, however. Change can be successfully managed, and the following steps can help you move your business and your people to where they need to be.

1 Have a clear vision of what you want to achieve. "IT leaders often have difficulty ensuring that their visions are clear, specific and framed from multiple perspectives so they can reach all the various people they need to reach," says Sheila J. Smith, a senior consultant at Ouellette & Associates Consulting Inc. in Bedford, N.H.

As a positive example, Smith points to one IT department that, when assessing how it could improve support for users, determined what the sup-

Continued on page 36


IBM.
3
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4


Middleware is Everywhere.
Can you see it?
5
1
Rational
Key
1. Changes accommodated easily.
2. Scope managed efficiently.
3. Resources allocated precisely.
4. Progress monitored on dashboard.
5. Upgrade completed ahead of schedule.
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ON DEMAND BUSINESS™

Emotions MATTER

WHETHER you're upgrading hardware throughout your organization or changing user software, people's resistance to change will be one of the biggest obstacles to success.

"Change is fundamentally about people's behaviors – and talk about complex systems!" says Douglas Mikaelian, director of IT at Poly-Foam International.

IT managers leading change should be prepared to encounter a range of emotions among users – from anger and denial to excitement – and learn how to deal with them.

Successful leaders discuss the potential emotional reactions upfront and let their staffs know what they might encounter, says Sheila J. Smith, a senior consultant at Ouellette & Associates Consulting. When she worked with a regional bank that was downsizing and consolidating some functions, executives there gave staffers a worksheet to help them identify the emotions they were experiencing. The worksheet was "a thinking tool for them," she says. It listed positive points to help counteract whatever negative emotions they were feeling.

Executives should also acknowledge the loss that people feel when change takes place. "We forget that people have to let go of the real things they're leaving behind in a change," Smith says. She has seen pharmaceutical companies, health care companies and banks hold "funerals" when a staff undergoes significant change.

"You're often ending relationships of people who are working together," she explains, "so finding some way to allow them to end it in a very memorable way allows people to move past the ending."

– *Mary K. Pratt*

Continued from page 33

port process should look like in the future and how that differed from its current setup. Then the department articulated that evolution to everyone who would be affected by the change.

2 Build alliances. Seek out leaders within other departments to champion changes. "If we can get those [business] people on our side, we'll get everything to work," says Angelo Mazzocco, vice president and CIO at The Dispatch Printing Co. in Columbus, Ohio.

Mazzocco, who oversees the IT departments of 14 affiliate companies with more than 2,000 employees, holds monthly meetings with senior IT and business managers so he can notify allies when changes are proposed.

3 Lead by example. That means you have to be an early adapter to change, says William McQuiston, CIO at Truman Medical Centers Inc. in Kansas City, Mo. "So if someone is having problems with the change, I can say, 'Yes, it was a struggle for me, and I did this, and it helped,' " he says.

4 Communicate, and then overcommunicate. Meetings, newsletters, posters, e-mails and informal exchanges help you explain the changes that lie ahead, why they're needed and what they'll mean.

"We need to explain how this positively affects you, how this helps you do your job better," says Johanna Rothman, president of Rothman Consulting Group Inc. in Arlington, Mass.

Remember, too, that "everything you do is communication," Rothman says. Your actions say at least as much as your words.

5 Educate workers about how the change will improve their performance. When Bally rolled out a new system for contact management and guest registration, the pilot program showed that the training taught workers how to use the system but not necessarily how to use it to further sales, Holmberg says. So the IT department partnered with the training department to develop a much richer training program that taught workers the system's full value.

"The assumption is if people know how to manage the [new IT] system, then people will know how to navigate their daily workflow," Holmberg says. But that's not necessarily true. Tailor training programs to teach workers how to use the new technology to do their jobs better.

6 Divide the change into digestible pieces and then take time to implement them. "A key to making a transition is to take very small and deliberate steps," says Douglas Mikaelian, director of IT at Poly-Foam International Inc., a Fremont, Ohio-based manufacturer with 500 employees at 22 sites.

Mikaelian worked with one company whose five-person IT staff went from supporting a couple hundred people to 1,200 in a few months because of organizational changes. To meet the new demands, the IT department identified 16 processes that needed overhauls and then implemented them one by one over two years. The company also added four new IT workers to keep the day-to-day operations going while the larger organizational changes took place, Mikaelian says.

7 Keep it simple. IT leaders tend to add "complexity through too much process," says Scott Richards, CIO at Emergency Medical Associates/Alpha Physicians Resources in Livingston, N.J. He says that he prefers an agile development strategy that puts users and developers together to hammer out new systems and the changes that will go with them.

"Go right to the user. Put the user with the people who can get [the change] into play," Richards says, pointing out that his projects take an average of two to three months from active engagement to deployment.

Richards freely acknowledges that his approach is different than that taken by others. But, he says, "change management can't be imposing. It can't be so structured that people are more concerned about the formalities" than about actually making the transition successfully.

8 Look to past experiences and colleagues for guidance. Examine your previous successes and failures to determine how you can improve change management, Ouellette's Smith says. Ask, "Did we get enough buy-in?" "How well did we communicate?" and "How did we sustain change?"

Mazzocco also recommends tapping colleagues in other industries for advice, which is something he does at a CIO forum he started six years ago. "It's helped us in implementing major initiatives," he says.

9 Sustain change by providing the right tools. When Finlay implemented a new resource and project management tool at Partners HealthCare, she sent staffers to a day of training. Afterward, she had follow-up sessions where workers could ask questions on how to integrate the tool into their day-to-day jobs. She also set up phone and e-mail support for workers who had questions or encountered problems after they started to work on the new system.

10 Solicit feedback. Survey workers who are affected by a change and talk with them directly. "Management shouldn't just say, 'I have an open-door policy.' The reality is most people won't go through that doorway," says Naomi Karten, principal of Karten Associates, a training and consulting firm in Randolph, Mass.

11 Acknowledge progress to keep up momentum. Karten remembers one insurance company whose IT department underwent a major reorganization. Afterward, the IT manager kicked off meetings by having staffers talk about positive interactions with new internal customers, good encounters with new departments or examples of smooth adjustments.

12 Make the necessary commitment. We're all doing more with less these days, but when it comes to change, Mazzocco says it's best to devote the necessary people to the project by freeing them from their day-to-day duties. Holmberg takes that advice one step further: If your organization lacks the commitment and courage to see the change through, she says, don't even begin. **51175**

Pratt is a freelance writer in Waltham, Mass. You can contact her at markmary@mindspring.com.

RESOURCES

by Naomi Karten (Dorset House Publishing, 2005)

by Jeanie Duck (Three Rivers Press, 2001)

by William Bridges (Perseus Publishing, 2003)

by Gerald M. Weinberg (Dorset House Publishing, 1986)

Continued from page 33

port process should look like in the future and how that differed from its current setup. Then the department articulated that evolution to everyone who would be affected by the change.

2 Build alliances. Seek out leaders within other departments to champion changes. "If we can get those [business] people on our side, we'll get everything to work," says Angelo Mazzocco, vice president and CIO at The Dispatch Printing Co. in Columbus, Ohio.

Mazzocco, who oversees the IT departments of 14 affiliate companies with more than 2,000 employees, holds monthly meetings with senior IT and business managers so he can notify allies when changes are proposed.

3 Lead by example. That means you have to be an early adapter to change, says William McQuiston, CIO at Truman Medical Centers Inc. in Kansas City, Mo. "So if someone is having problems with the change, I can say, 'Yes, it was a struggle for me, and I did this, and it helped,' " he says.

4 Communicate, and then overcommunicate. Meetings, newsletters, posters, e-mails and informal exchanges help you explain the changes that lie ahead, why they're needed and what they'll mean.

"We need to explain how this positively affects you, how this helps you do your job better," says Johanna Rothman, president of Rothman Consulting Group Inc. in Arlington, Mass.

Remember, too, that "everything you do is communication," Rothman says. Your actions say at least as much as your words.

5 Educate workers about how the change will improve their performance. When Bally rolled out a new system for contact management and guest registration, the pilot program showed that the training taught workers how to use the system but not necessarily how to use it to further sales, Holmberg says. So the IT department partnered with the training department to develop a much richer training program that taught workers the system's full value.

"The assumption is if people know how to manage the [new IT] system, then people will know how to navigate their daily workflow," Holmberg says. But that's not necessarily true. Tailor training programs to teach workers how to use the new technology to do their jobs better.

6 Divide the change into digestible pieces and then take time to implement them. "A key to making a transition is to take very small and deliberate steps," says Douglas Mikaelian, director of IT at Poly-Foam International Inc., a Fremont, Ohio-based manufacturer with 500 employees at 22 sites.

Mikaelian worked with one company whose five-person IT staff went from supporting a couple hundred people to 1,200 in a few months because of organizational changes. To meet the new demands, the IT department identified 16 processes that needed overhauls and then implemented them one by one over two years. The company also added four new IT workers to keep the day-to-day operations going while the larger organizational changes took place, Mikaelian says.

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Brain Overload

The stress of modern work life may be literally driving us to distraction. Here's what you can do about it.

Too much to do, too little time, too few resources. If you're feeling that the harder you work, the behinder you get, you're not alone. You and your distracted, impatient, irritable IT co-workers may be suffering from a previously unrecognized neurological phenomenon called attention deficit trait. In the January issue of the Harvard Business Review, *psychiatrist* **Edward M. Hallowell**, *renowned for his work on attention deficit disorder, describes the inner frenzy affecting so many in today's IT workplace. The author, founder of the Hallowell Center for Cognitive and Emotional Health in Sudbury, Mass., talked with* Computerworld's *Kathleen Melymuka about what brings on ADT and how you can control it.*

What is attention deficit trait? It's a severe case of modern life. It'a my term for what happens to the brain when it becomes overloaded with information, obligations and more data points than it can keep up with. You start to resemble someone with actual attention deficit disorder — distractibility, impulsivity, impatience, restlessness, irritability. In an attempt to get everything done, you become less and less efficient, and that leads to underachievement and deteriorating performance even as you're trying to improve.

How is this different from attention deficit disorder? True ADD is a genetically transmitted brain trait. This one is purely environmentally produced — simply a function of overload.

Can you give me an example of what might bring on ADT in an IT environment? You start off the day looking at e-mail. One includes a crisis that you need to take care of. As you start to take care of it, your supervisor knocks on the door with another crisis. Just then, you get a call from home asking you to take care of three things. You bump into a colleague and she complains about how you treated her the day before, and there you go. You're dealing with more than the brain is equipped to handle.

What happens? Instead of operating efficiently, the brain goes into survival mode, and you try to bring closure to these things. You tell your colleague to grow up. You ask your spouse why she can't understand that you're trying to get some work done. You tell your supervisor — curtly — that you'll get back to him when you can. You shoot yourself in the foot because you're desperate and not thinking clearly. You're losing your flexibility, your sense of humor, your capacity to prioritize and organize. You become impulsive and much less effective interpersonally and cognitively than you would otherwise be.

Is this something that might happen one day but not the next? Absolutely. But it's like chronic stress: Once you have it many days in row, you do walk in with it, and you almost create it. In a funny way, you become addicted to it. You think, "This [ADT] is work, and if it's not happening, I'm not working." That way, it becomes self-perpetuating. You fall into the trap of not working smarter, just working harder.

You say fear is at the base of ADT. Can you explain? Basically, as you're having to do more and more, you come to be in a minipanic: You can't get it done; you'll put in a slipshod performance; you'll lose your job. Your brain is going into red alert. In a fear-governed state, as you try to do better, you actually do worse because fear shanghais the frontal lobe nerve cells you need to be effective and diverts them into the service of fear. You waste all this mental energy imagining all these fearful things.

As an IT manager, I have only a limited degree of control over my work environment. What can I do to lessen the chances of developing ADT? Nobody can control their work environment. We're all subject to fate. But identify what you *can* control and focus on that, even if it's just the space on your desk. Instead of entertaining scenes of doom and gloom, which you can't control, engage the problem-solving part of your brain and solve a problem. Try to rebuke the primitive side that keeps jumping up with a fantasy of terror and fear and doom.

You write about mind-clearing tricks that can help when you start feeling overwhelmed. Can you mention a few? A quick burst of exercise is a wonderful one. Instead of reaching for coffee or carbohydrates, do 25 jumping jacks. Another is to do a simple rote task that involves the frontal lobes. Write the beginning of a memo — not the hard part. Just writing the beginning will recruit the frontal lobe neurons and trick you into not paying attention to the fear-based part of your brain. Also, never worry alone. Commiserate with a colleague. Social isolation is where toxic thinking flourishes.

What should my company do to keep ADT at bay? It's not about buying people more-powerful BlackBerries. Emotion is the key. The more you can create a trusting work environment, the less people have to deal with fear, the great disabler. Create conditions of mutual respect and trust, which cause the brain to solve problems instead of getting paranoid. Give people permission to say, "Enough!" instead of telling them to suck it up and try harder.

Some people will say you want to coddle workers who should just suck it up and do their jobs. How would you respond? If people could suck it up and it would work, I would advocate that. But sucking it up is counterproductive. You reach a point in the performance/anxiety curve where [work] starts to deteriorate. When you're operating on fumes, you go into fear/survival mode and you lose those qualities managers want. The bottom line is you can bring out a whip, but it doesn't work. **51332**

ThinkTank

BRAIN FOOD FOR IT EXECUTIVES

Success Breeds Problems for Bangalore

As a location for IT outsourcing, Bangalore, India, is still the place to be. "It's far from past its prime," says Eugene Kublanov, a vice president at neoIT Inc., an offshore outsourcing consultancy in San Ramon, Calif. Bangalore still has the best concentration of IT talent in India, beautiful high-tech business parks and good weather, he says.

But the boom in offshore outsourcing is also putting strains on the infrastructure in Bangalore, which faces stiff competition from other cities in India for outsourcing business. The No. 1 complaint about Bangalore is that drivers face hours-long traffic jams on chaotic, inadequate roads. That's followed by

complaints about the airport, which badly needs to be upgraded or replaced.

"The infrastructure [in Bangalore] requires a significant amount of investment, or the city won't be able to sustain its growth," Kublanov says.

A neoIT study of the best cities in India for outsourcing ranks Bangalore second, trailing the city of Gurgaon. Pune, Hyderabad and Chennai are nipping at Bangalore's heels, according to the study.

Perhaps the biggest challenge for outsourcing firms in Bangalore is the hyperinflation of IT salaries, which were up 19% in 2004, Kublanov says.

For outsourcing firms, "it's becoming very expensive to do business in Bangalore, by India's standards," he says. "Their fees aren't going up 19%, so their margins have to give," which is why Bangalore giants such as Wipro Ltd. and Infosys Technologies Ltd. are starting to set up additional operations elsewhere.

– *Mitch Betts*

Best Bits

The most useful parts of recent business and IT management books

THE BOOK: ***Privacy: What Developers and IT Professionals Should Know***, by J.C. Cannon (Addison-Wesley, 2005).

Finally, there's a privacy book for IT managers instead of policy wonks. This isn't the perfect privacy book, but it has useful sections on improving privacy at Web sites and providing multilevel access controls for databases so that only certain employees can see the most sensitive information on a need-to-know basis.

A key message is that privacy needs to be baked into IT applications from the outset – yes, just like security – and the book provides a detailed methodology for exactly how to do that. The trick will be overcoming resistance from application development teams who fear this will make projects take longer. (Advocates could point out what regulatory fines and press exposure will do to the company's stock price.) The author also urges companies to follow one of the oldest data privacy principles: Don't collect more data on people than you really need. But with today's emphasis on CRM and terabyte-size data warehouses, I'm afraid that advice will be ignored.

– *Mitch Betts*

Things to Ponder

■ **Buzzword alert:** Domicity Ltd., an IT consulting firm in Toronto, is using the term *Metanet* to describe the interlocking group of various networking technologies, such as public and private packet- and circuit-switched networks, and terrestrial and satellite-based wireless systems. It's bigger than just the Internet.

■ **What do CIOs like most about their jobs?** Variety, solving business problems and working with innovative technology were the top three answers in a survey of 100 CIOs conducted by Merrill Lynch & Co. in New York. What they really hate is budgeting.

■ **One of the megatrends over the next five years** will be "microcommerce," says Gartner Inc. Think of Apple Computer Inc.'s iTunes online music store, where songs cost 99 cents, and the fact that consumers have spent millions of dollars on cell phone ring tones, which can be downloaded for a few dollars each. **IDG 51418**

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS., NOVEMBER 2004

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Career Watch

Tell me about your workforce. We have almost 400 FTEs in our shop and 100 contractors from various providers. Our use of contractors provides us the ability to quickly ramp up and down as needed. Ten percent of the total head count is offshore. I don't envision us moving a large percentage of our workforce offshore. Ten percent is the max.

What challenges are you facing? We all have an aging workforce. Thirty-three percent of our entire organization is set to retire within 10 years.

We're making attempts to try to capture some of that knowledge in knowledge management systems. Then there's the challenge of managing talent when people turn 55 and become free agents.

What are the top skills you're looking to find? The types of skills we need are determined just before projects are about to start. Some of them are hot skills like .Net. But the harder part is developing and maintaining skills around business process optimization – taking out inefficiencies from operations and reducing costs. I don't think there'll be a CIO position in 10 years. It will become a chief process officer.

What will be your big workforce challenges in 2005? We're constantly evaluating whether we want to roll contractors into FTEs. Do we increase the employee count and reduce suppliers? Also, do we get the right skills at the right market rates?

51265

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JOBS MOST RESISTANT TO OUTSOURCING IN 2005

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SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS., NOVEMBER 2004

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The IT Economy

■ Analysts peg this year's IT spending growth at a healthy 5% to 8%, but "a few trends will weigh down most companies and leave little for the innovative IT purchases that drive competitive value," says Tom Pisello, CEO of Alinean LLC in Orlando. Mandatory purchases and hidden "taxes," such as security and PC upgrades and spending on Sarbanes-Oxley Act compliance, will consume much of the IT budget but add little real value to the business, Pisello says. Plus, shadow spending outside the IT department's control will continue to take up 10% to 20% of a company's overall IT expenditures. Pisello says the key to "extracting meaningful value" will be reducing the total cost of ownership of required purchases and thereby freeing up funds for innovative projects such as Web services, mobile computing, business intelligence and radio frequency identification.

Buying Intentions

IDC researchers say their index of business IT demand (below) shows that user spending expectations have dropped a little, but buyers are still somewhat bullish. In fact, in a real switcheroo, IT buyers are more optimistic than vendors are these days, IDC says.

The buyer intent index is based on monthly surveys of 400 to 500 U.S. CIOs and business executives, who are asked about their IT spending expectations for the next 12 months. Results are weighted to be representative of the U.S. market. An index of 1,000 means zero growth. Caveat: Buying intentions don't always lead to real spending.

SOURCE: IDC'S FUTURESCAN, FRAMINGHAM, MASS., DECEMBER 2004

Career Watch

CIO

Arizona Public Service Co

Q&A

Like many other CIOs, Denny L. Brown says he's constantly balancing the ratio of full-time IT employees (FTE) to contract workers at the Phoenix-based electric company.

But Brown has other staffing concerns, and he recently discussed them with *Computerworld*'s Thomas Hoffman at an energy industry conference.

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ID 51265

ASK A PREMIER 100 IT LEADER

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Tech Skills Pay Boost

Following a prolonged period of decline, premium pay tied specifically to IT skills is starting to increase as a result of widespread retention concerns, offshoring disappointments and an increase in competition for IT consulting talent, according to a new study published by Foote Partners LLC in New Canaan, Conn. The study of 45,000 IT workers and 1,860 North American and European employers found that although pay for 150 certified and noncertified skills dropped an average 4.2% and 0.5%, respectively, in 2004, pay for networking skills increased 6% in the past year. Pay rose 4.5% for messaging/groupware skills and nearly 4% for skills related to applications development and programming languages. Other findings:

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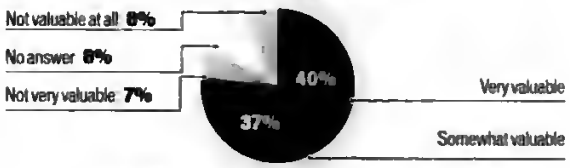
SOURCE: "IT INSIDER COMPENSATION BENCHMARKS AND EMPLOYMENT TRENDS," THIRD QUARTER 2004, FOOTE PARTNERS LLC, NEW CANAAN, CONN.

WORTH THE EFFORT

A survey of 612 workers by OfficeTeam, a Robert Half International Inc. staffing service, found that most employees think annual performance reviews are beneficial.

How valuable is the feedback you receive during performance reviews?



AVOID THESE REVIEW PITFALLS

Diane Domeyer, executive director of OfficeTeam, noted that performance reviews are most productive when managers avoid these common pitfalls.

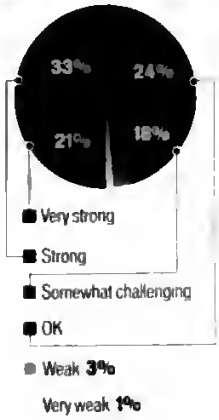
- **Saving it all up.** Don't wait until the performance review to share compliments and constructive criticism. Offer feedback throughout the year.
- **Winging it.** Prepare in advance for individual meetings with employees. Evaluate staff based on the same standards.
- **Failing to consult others.** If your team members regularly work with people in other departments, tap these people for additional feedback prior to the meeting.
- **Keeping employees in the dark.** Nothing in performance reviews should come as a major surprise to employees. Let them know what will be discussed, how much time to set aside for the meetings and how you would like them to prepare.
- **Not following through.** Make sure you and your employees reach agreement on key objectives for the coming year and establish checkpoints to assess their progress in the months ahead.

– Kathleen Melymuka

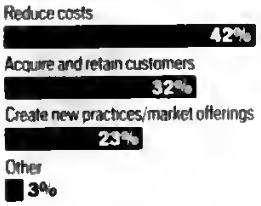
BRIEFS

CIO Confidence

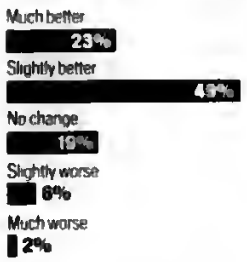
Which of the following best describes the current business climate for your industry?



In 2005, which of the following business needs will be the most important for your IT organization to support?



Three business quarters from now, what do you expect for the health of your industry?



BASE: 164 CIOs at North American companies (Some percentages may not equal 100 because of rounding.)
SOURCE: Forrester Research Inc., Cambridge, Mass., November 2004

PAUL GLEN

Growing New IT Managers

WHERE WILL YOUR next generation of IT managers come from? For most senior IT leaders, the answer is that they will hire them. They plan to dip into that deep pool of talent in the outside world to reel in just the right sort of people to drive their organizations into the future.

Given all the concerns about shrinking IT departments and the offshoring of IT jobs, there should be enough experienced managers to go around, right? Well, perhaps, but perhaps not. The baby boom generatioo of managers is rapidly approaching retirement age. And they are probably looking forward to it, given the storm clouds on the horizon for IT.

Paul Glen is an IT management consultant in Los Angeles and the author of the award-winning book *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass Pfeiffer, 2003; www.leadinggeeks.com). He can be reached at info@leadinggeeks.com.

Not that we should look upon managers as a commodity. But as with grain, if everyone's buying and no one is growing, acquisition may oot be as easy as some expect. It always seems to come back to that supply-and-demand curve from microeconomics class. So perhaps a little growing may be a good way to ensure a stable future for your organization.

Here are a few ideas for initiating a focused approach to growing new managers:

Identify your pool of high-potential candidates. Inquire among your project managers, directors, users and others about who on the staff has management potential. Keep this informal and quiet.

Offer opportunities to explore the management role. Make a conscious effort to find small ways for the likely candidates to experiment with managerial roles. Give them a chance to interact with customers directly. Have one person take the lead on a three-person task. Ask one of them to suggest a new process for something. This gives them a chance to learn and you an opportunity to observe. Don't make these things big public events, just small parts of the job. By the time a new manager is appointed, he should have had the chance to dabble in many areas of the job.

Don't expect 100% conversion. Not everyone you identify will turn out to have real ability, and some of those with ability may lack desire. Not everyone wants to be a manager, and you have to respect that.

Make sure that there's a viable rollback option. Too many times, I've seen star performers leave companies because they tried out management and learned that they hated it. Once branded with the manager moniker, they felt trapped by their "success," wishing to return to a technical role but fearful of losing status. For them, the only way out was to leave the company, taking with them all their valuable experieoce and expertise. You've got to devise an approach tbat allows people to return to technical roles without fear of public humiliation.

Recognize stages in the transformation. Growing managers are just that: growing. The process of becoming is slow and arduous, requiring time and nurturing. You can monitor your protégés' progress through a series of typical stages as they become true managers. (Of course, some get stuck along the way and stop progressing.) Roughly, these are the stages:

Stage 1: Managing tasks. New managers are typically focused on the things they need their staffs to get done. They concentrate primarily on the activities and products to the exclusion of all else.

Stage 2: Managing relationships. After a while, managers begin to recognize that their roles extend beyond things, and they begin to manage relationships, mostly with external people. They realize their own and their group's interdependence and begin to manage it actively.

Stage 3: Managing people who do tasks. Eventually, new managers begin to loosen their grips on tasks and begin to focus on managing the people who do the tasks, recognizing their own dependence on their staff and developing trust in their abilities and judgment.

Stage 4: Managing people who accomplish goals. Finally, managers step even farther away from the details of the work and focus on setting direction, context and goals, allowing their people to turn those priorities into reality.

Developing new managers should be considered an important part of every IT leader's role. A modest investment of time and money in future managers can result in the best return on investment you'll find in your entire budget. **51355**

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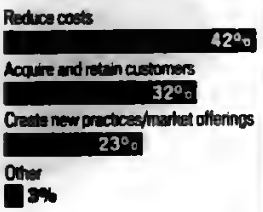
BRIEFS

CIO Confidence

Which of the following best describes the current business climate for your industry?

In 2005, which of the following business needs will be the most important for your IT organization to support?



Three business quarters from now, what do you expect for the health of your industry?

BASE: 154 CIOs at North American companies. (Some percentages may not equal 100 because of rounding.)
SOURCE: Forrester Research Inc., Cambridge, Mass., November 2004

PAUL GLEN

Growing New IT Managers

WHERE WILL YOUR next generation of IT managers come from? For most senior IT leaders, the answer is that they will hire them. They plan to dip into that deep pool of talent in the outside world to reel in just the right sort of people to drive their organizations into the future.

Given all the concerns about shrinking IT departments and the offshoring of IT jobs, there should be enough experienced managers to go around, right? Well, perhaps, but perhaps not. The baby boom generation of managers is rapidly approaching retirement age. And they are probably looking forward to it, given the storm clouds on the horizon for IT.

Not that we should look upon managers as a commodity. But as with grain, if everyone's buying and no one is growing, acquisition may not be as easy as some expect. It always seems to come back to that supply-and-demand curve from microeconomics class. So perhaps a little growing may be a good way to ensure a stable future for your organization.

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Computer Research Specialists (Computer Programmers) needed in Tallahassee, FL. Req Bachelor's degree or equiv in Comp Sci., Comp Engg., Math or related & 2 yrs exp in job offered or in related occupation as a Computer Professional. A Bachelors degree or equiv in Computer Science, Computer Engineering, Math or a directly related field & 2 yrs of relevant exp. is considered the equivalent of a Masters degree. Equivalency is defined as determined by properly evaluated credentials. Exp must include 1 yr working with Cobol, CIS, DB2. Duties include: Under supervision, develop & write computer programs to store, locate & retrieve specific documents, data & information. Write SQR programs to convert the data from legacy system into PeopleSoft ERP system. Maintain & develop software applications for Student Administration module. Solve technical problems related to PeopleSoft applications. Maintain legacy system for the Office of Student Financial Aid. Review & process data entered by students for purposes of record keeping. Document & transfer data to the Office of Student Financial Aid. Work with Cobol, CICS, DB2, JCL, Java, Easytrieve C, HTML & Coldfusion. Confer with users to understand & implement changes to system upon approval of supervisor. All work is reviewed. Several positions available. 40 hrs. per wk., 8 AM-5 PM. $46,663/yr. Send resume to Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302-0869. Ref. Job Order #FL-2590832

Computer/Info Systems

Information Systems Professionals

To participate in analysis, problem solving, project design and technical implementation for major projects. Participate in the timely and high quality delivery of product; implementation, integration, design coding, testing and documentation of custom application software, evaluate user requirements and consult with design team to identify current procedures and needs; support and train end-users. Technologies/Platforms used include UNIX, Windows NT, SQL Server, or Oracle using SQL, C/C++, Visual Basic, Java, Cobol and other appropriate programming languages in Client/Server Network and Mainframe environments. Must have a Bachelors degree, or its equivalent. We are hiring at all experience levels.

Please send resume to:

Human Resources,
Knightsbridge Solutions,
500 W. Madison Ave.,
Suite 3100, Chicago, IL 60661
or
recruiting@knightsbridge.com
EOE

Computer Professionals. Wintel Systems, Inc. needs top-notch professionals w/consulting exp. in some of the following areas or combination thereof: Java tools, J2EE, XML, Web Development, C, C++, VC++, MFC, UNIX, Win XP/NT/2000, Web Technologies/E-commerce (CGI, Perl, Script-ing), PowerBuilder, ASP, SCO, SCCS, SVR, SunSolaris, Lotus Notes, SQR, RDBMS, Oracle, SAP, PeopleSoft, BAAN, JDEdwards, Sybase, SQL Server, DB2, OLAP, Financial Services Exp. (FIX, SWIFT, Protocols), Client/Server, OOD/OOA, COM/DCOM, ASP, Visual Interdev, Coolgen, Host Encyclopedia, MVS, JCL, DB2 and COBOL, Artificial Intelligence, Knowledge Engineering, Knowledge Acquisition, or Cognitive Modeling, Enterprise Resource Planning) applications. Top $. Requires Master's/Bachelor's degree or/+ to 5 yrs of professional exp. Must be willing to travel to client sites throughout the U.S. Please mail resume to: 330 E. Roosevelt Rd., Suite 201, Lombard, IL 60148. Attn: Ash

Senior Software Engineer to work in Unified Database Environment group of Feed Income Division. Will perform functional analyses for major Sybase projects supporting several corporate initiatives. Will be responsible for multiple phases of the project development serve as the key developer & database administrator for the team. Specific duties as follows: perform independent technical analyses on complex projects; design database requirements on major projects, improve the production support cycle of the UDE, serve as technical expert for Sybase work with datamirror transformation server process to subscribe data into Sybase database from various AS400 sources, provide backup DBA support & replication server support. Requires BSc or equiv in Computer Science Engineering, Math or Physics plus 3 years exper in Job Offered OR 3 years developing client server/web server database applications. Candidate must also possess demonstrated expertise in the following: Sybase database development & administration, including physical & logical database design, query optimization performance tuning & writing database objects – stored procedures and triggers; in PERL and UNIX shell scripting, and Object Oriented analysis and design using Java and C++; and in datamirror real-time transformation server process and its functionality across platforms. Sal. $85,400/yr, M-F, 9AM-5PM. Send 2 resumes to Job Order #2003-343, PO Box 989, Concord, NH 03302-0989. EOE. Applicants must be U.S. workers eligible to accept full-time employment in U.S.

SVAPTECH SYSTEM INC
Software Engineer

40hrs per week, 9am-5pm, $79,450 per year. The job is located in Melbourne Florida. Requires a Master's Degree in Electronics, Engineering Science, Computer Science, or it's Equivalent & 3 years experience in job offered position or 3 years experience in related occupation in Applications Analyst/Programmer. Employer will accept a Bachelor's Degree & 5 years of Progressive experience in the relevant field in Lieu of a Master's degree & 3 years experience. Analyze, design, develop, test & integrate software application requirements to provide high & low interfaces in conjunction with hardware using SQL, PL/SQL, XML, UML, PRO*C, Rational Clearcase, CVS. Job Duties: Use object oriented database & offline relational database as backend to handle inventory details. Implement & test designs in programming languages like C++ & Java. Troubleshoot/repair system issues, perform system upgrades. Send resume to Agency for Workforce Innovation, P.O. Box 10869, Tallahassee, FL 32302. RE: JO FL#2591510.

SW Engineers (Apps) (National Placement - 2) Perform project execution and handle team design and implement SW APPS. Analyze system & customer reqmts. to Design and Develop the client applications that meet the business reqmts outlined by the clients. Setup application environment & project structure including the team mgmt models. 5 years Exp. in related fields and a min Bachelor in Computer Science or Engg. Position 1 is Java Developer: Java/J2EE, EJB 2.0, UML, WSAD 5.X, HTML, MVC. Position 2: Microsoft .NET developer VB.NET, ASP.NET, Web Services, XML, SQL server. Must be Microsoft Certified Solutions Developer & Microsoft Certified Professional. $70,500/yr, 40 hrs/wk, 9a - 6p. Send resumes, listing Job Order # WEB494133 to Site Director, Pittsburgh/Allegheny County CareerLink, ATTN: CL Program Supervisor, 428 Sixth Avenue, Suite 2200, Pittsburgh, PA 15219-1837

Education & Human Development Department of Lamar University in Beaumont, Texas, has a vacancy for a Sr. Technical Support Analyst to design, implement and maintain customized electronic portfolios for educator preparation students and programs based upon NCATE accreditation standards and to integrate SBEC and INTASC protocols and standards within e-portfolios. Master's degree preferred. Bachelor's degree required with an emphasis in graduate level computer and management courses. Requires one year work experience in IT field preferably in a university based environment. For consideration, all applicants should list three to five samples of their work pertaining to the above requirements and official transcripts are required at the time of employment. Please send resumes to Human Resources, Lamar University, P.O. Box 11127, Beaumont, TX 77710. AA/EEO Employer

Internet Development Analyst. Responsible for planning, developing and deploying eBusiness applications and technologies in support of Roche's business activities. Specifically: Develop-ing new web applications, as well as extensions, modifications and interfaces to existing eBusiness applications. Providing technical expertise and analysis support to customers wishing to make use of eBus-iness technologies. Performing process analysis, design of application architectures, code writing and unit testing. Leading large development projects requiring in-depth knowledge of complex development languag-es, function and interface de-sign. Communicating and coordinating with end users, contractors, system administrators and other development or maintenance personnel. Prior experience must include database migration and development of multiple ecommerce web applications. The position requires an MS in Electronics or Computer Engineering and 5 years in the job offered or 5 years of program/system analysis. Submit resume and social security number to: Kathy Sanders, Roche Diagnostics, 9115 Hague Road, Indianapolis, IN 46250. No phone calls please.

Software Professionals in programming/analyses, systems analyses, QA engineering & testing, software engineering, systems administration, and related fields at all levels, including project lead and manager, with relevant bachelor's degree/equivalent. Also seeking Business Development Managers, Business Developers, Business Analysts, Market Research Analysts, Sales Engineers, Technical Resource Management professionals (several levels, Associates/Sr Executives/Manager)/Senior level positions require graduate degree/equivalent. May be relocated for short and long term assignments throughout the U.S.A. Zensar Technologies, Inc., One North LaSalle, Suite 3650, Chicago, IL 60602. Send resume & cover letter detailing position sought & relevant experience to balu@usa.zensar.com. Please quote reference CW01/05 Zensar in all your mails

Software Engineer (with Bachelors degree plus 5 years experience) - Columbus, OH. Job entails and requires experience in designing applications using SQL Server, Visual Basic, DHTML, ASP and Java Script; development using Oracle, XML, Visual Interdev and Unix. Relocation within USA Possible. Attractive compensation package. Send resume to Priya Venkat, Technology Software Inc., 1515 Bethel Rd., Suite 304, Columbus, OH 43220.

Programmer/Analyst (multiple positions) needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include Analyze design, develop, code implement and test speech processing software and applications in Windows and UNIX environments with relational databases such as Oracle DB2, or Sybase. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 3 yrs exp in the job duties described above or in any computer related occupation which must include designing and developing speech processing software in both UNIX and Windows environments and including a min. of 1 yrs of Oracle, DB2, and Sybase. 40hrs/wk, 8am-5pm, M-F, $57,606/yr. Send resumes to Job No. 30274 P.O. Box 468, Montpelier, VT 05601-0468.

Seeking qualified applicants for the following positions in Memphis, TN: Senior Business Systems Analyst. Develop major applications systems requirements, testing and controls. Requirements: Bachelor's degree or equivalent" in business, computer science, engineering, mathematics, MIS or related field; plus 5 years of experience in systems planning and design or systems development and integration. Experience with software development using Visual Basic.Net or ASP.Net, database administration using SQL, and STAR schema data warehousing also required. "Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Jay Carlson, Federal Express Corporation, 3680 Hacks Cross Road, Bldg. H-2nd Floor, Memphis, TN 38125. EOE M/F/D/V

Software Engineer

Develop, create & modify software apps etc. Customize software & optimize oper efficiency etc. Must have Masters degree or Bachelors plus five years of progressively resp. exper. Incl. at least 2 yrs of demonstrable, prof. exper. using: Oracle, PowerBuilder, MSAccess2000, Informatica, PVCS, Toad, Bethrec Software, Sco Unix, Unix Shell Script, Java, Unify, Visual Basic, & SQL. $75,000/year, F/T, hrs vary. Send res. to Greene Cty. Careersrvc, Attn: Site Admin., 4 W. High St., Waynesburg, PA 15370-1324. Ref. Job Order # WEB 483618

Programmer Analyst: Provide conceptual data processing solutions to customer business problems in mission critical systems such as customer billing, customer svce., marketing info systems & service & materials & financial systems. Support the application systems planning process. Analyze existing systems & procedures & determine the feasibility of data processing applications. Master's in Computer Science or a closely related field. Resume to Ali Zakir, Supra Corp., 5500 Oglethorpe Pkwy, Ste 120, Norcross, GA 30093

KPK Technologies Inc has immediate openings for IT consultants to fill various positions to customize applications database system software using Java, DB2, Oracle, V6, Weblogic/Websphere, etc. Good wages. Travel required. Please contact: Info@kpktech.com EOE.

Sage IT is looking for IT professionals to develop applications using Cognos Impromptu, PowerPlay, ReportNet, SQL, Oracle, Teradata (NCR), Sybase, Essbase, DB2, Red Bricks, Informatica, Data Stage, Ab Initio, Web Logic/Sphere, JSP, ASP, Min. BS w/ exp. Please contact info@sageitinc.com. EOE.

PROJECT MANAGER. Manage all aspects of a software development project throughout the development process utilizing the Rational Unified Process (RUP) methodology and project management software tools. Communicate project status and issues to the customer and to management. Ensure that goals and objectives of projects are accomplished within prescribed time frames. Confer with project staff to outline work plan and to assign duties, responsibilities, and scope of authority. Require Bachelor's or foreign degree equivalent in Computer Science, Electronic Engineering, or a closely related field, with 3 years of experience in the job offered or in software development. Experience must include 2 years using RUP and Configuration Management Software (PVCS). Paid travel on long or short term assignments to various unanticipated client sites within the U.S. is required. Send resume to Recruiter-Human Resources, Paragon Solutions, 3625 Brookside Pkwy, Suite 300, Alpharetta, GA 30082. (No Phone Calls Please)

Market Analyst - Intl. E-Commerce/B2B. Conduct mkt research for computer products & services to determine potential, maintain & improve int'l sales & mkt penetration. Establish, design & administer formats for mkt research & analyses, prepare reports & analyses, & use to help determine mktng strategy & focus. Coordinate w/ "back end" operation overseas. Follow up to determine effectiveness of methods & efforts of competitors. BA or equiv + 2 yrs. in int'l/foreign markets. Respond to HR Administrator, En Pointe Technologies, 100 N Sepulveda Blvd, 19th Fl, El Segundo, CA 90245.

Seeking qualified applicants for the following positions in Memphis, TN: Senior Systems Programmer. Devise procedures to solve complex systems and applications problems. Requirements: Bachelor's degree or equivalent* in computer science, MIS, mathematics engineering or related field plus 5 years of experience in systems programming. Experience with development of barcode symbology, sensor technology and scanning technology also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Miley Ainsworth, FedEx Corporate Services, 2847 Business Park Drive, Bldg J, Memphis, TN 38118. EOE M/F/D/V

Software Engineer (Systems) (National Placement). System Administrator with experience in administering, sizing, installation, configuration, and tuning of Sun Solaris, Red Hat Linux and Windows operating systems. Cisco/Sun Certifications in System Administration Skills include Solaris 7/8/9, RedHat Linux, RAID, Sun Cluster, Sun Sparc, Veritas Volume Manager, Cisco VPN Devices, Oracle, Open SSH, Shell Scripting. 4 yr Bachelor of Engineering Degree and five years of related experience $82,500/yr, 40 hrs/wk, 9a - 6p. Send resumes, listing Job Order # WEB483543 to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957

F/T Sr. Software Engineer. Responsible for designing, developing, enhancing, and maintaining Storage Software Components. Provide regular status reports to management. Support OEMs who are using these components using Linux and Windows Kernel. Network Storage technologies in File systems, CIFS, NFS, iSCSI, RAID, TCP/IP, AppleTalk, NCP, IPX, SNMP, LDAP and IPMI. Work with Test and Validation groups to ensure component is tested thoroughly. Follow Software Development Procedures. Use Source Code Control. Provide technical documentation. Must have a Bachelor's degree in Computer Science & Engineering, related field or foreign degree equivalent. Educational background must have included Linux, Windows Kernel, Network Storage technologies in File systems, CIFS, NFS, iSCSI, RAID, TCP/IP, AppleTalk, NCP, IPX, LDAP, SNMP, IPMI, and following Software Development Procedures. Salary: Competitive. Send resume to: Srivatsan Ramachandran, AMI, 8145F Northbelt Pkwy, Norcross, GA 30071

Regional Mgr., Latin America (Coral Gables, FL.) Responsible to lead mktg efforts for VOIP targeted to Latin America (LA) region, utilize tech knowledge to mkt & promote transition of int'l voice comm. from Public Switched Network to public internet, coor & provide expertise to existing & prospective clients re VOIP capabilities, ops & svcs to adequately mkt same; analyze client's existing telecom tech to mkt deployment of 4 Clarent VOIP using new signaling protocol svcs; mnge tech eng'g & sales staff in providing clients w/ interconn. solutions to resolve all tech difficulties; oversee & direct VOIP ops to guarantee stability & maintain profitability; supervise various groups on a project basis to provide adequate commercial & tech support for overall success of mkting efforts to LA region; perform & oversee mkt analysis to pursue new bus. opportunities in LA region; negotiate contracts, rates, traffic volume, op schemes & bus agreements for new & existing clients; stay abreast of mkt & regulatory trends & devel's in LA to provide insight & direction to corp. mgmt. for establishing co. goals, strategies, product devel. & policy re. making VOIP in LA; provide continuous reporting on all aspects of region incl. mkt, regulatory, ops & finance to mgmt. 40 hrs/wk, 8am-5pm, $60,000/yr. req: BS in Systems Eng'g, Industrial Eng'g, Operations or related field & 1 yr. exp. in job offered, or 3 yrs. exp. as Project Mgr., Operations &/or Senior Buyer, with prior telecom exp. to incl. devel, design, implementation & marketing of VOIP (Voice Over Internet Protocol) svcs to Latin America. Fluent Spanish. Please send resume to: Agency for Workforce Innovation, P.O. Box 10869, Tallahassee, FL 32302, ref. Job Order #FL-2573093.

Information Technology Specialists. Auburn University seeks two IT specialists to provide support in one or more of the following IT areas: system administration, network and/or operating systems support, information systems design and/or implementation or user and/or client services. Perform IT support tasks of complex nature. Represent unit on projects or activities. Work assignments may require periods of "on-call" support responsibilities. May supervise lower level IT specialists and assign and check the work of students.

Both positions require Bachelor's or equivalent in Computer Science or related plus 2 years of experience as an IT specialist programming complex systems in VBScript, ASP and other languages. SQL server administration, creating and maintaining SQL servers databases and application and installing and maintaining Microsoft server operating systems. One position requires the following additional qualifications: programmatically interfacing with Active Directory using ADSI and developing web pages with excellent human interfaces. Master's degree in computer-related field with demonstrated relevant coursework/experience may be substituted for above requirements. Must have indefinite legal authority to work in the U.S. Please send resume demonstrating all minimum requirements to: Mike Stewart, Director, Information Systems, Telecom Building, Auburn University, AL 36849.

Job Benefits

A benefits package may or may not be available. Request specific information from the employer.

4 openings for Maine:

1st: Database Administrator: Will be responsible for Database Administration using Oracle 8i/9i RAC, SQL server, IBM DB2 UDB databases, configuration of Oracle 9iAS. Data modeling using ER-Win, visio. ETL configuration using Informatica Power Center, Business Objects Reporting tool. HP-UX, AIX, Solaris, VMS. DB performance Tuning. Expert PL/SQL, Unix Shell Scripting. Data Architect and Integrator.

2nd: Software Developer: Will develop, test and implement commercial Client/Server applications using Jwave, PVWave, POI, XDoclets with struts, Java Server Faces, JSTL and EJB. Convert, enhance and migrate windows based applications. Must be Microsoft certified.

3rd: Database Administrator: Will be responsible for administration and maintenance of Oracle databases using Oracle streams, Quest shareplex, Veritas VCS, Net Appliance Fiber attached storage. Oracle and Sun servers. Manages database performance, availability, back-up, restore and recovery using Oracle tools like Enterprise Manager, Recovery Manager. Responsible for advanced data replication of production databases using Oracle streams and Shareplex software.

4th: Software Developer: Will develop, test and implement XML, COM+ and .NET centric multi tiered, multi language support, distributed Client/Server Internet applications with Visual Studio (VB, VC++), Visual Studio .NET (VB.NET, C# VC++), xmlspy, Infragistics, Actuate Formula one suite of tools and Business Intelligence/Reporting applications with Crystal Reports, Crystal Enterprise and Data Dynamics ActiveReports. SQL Server and DB2 databases on Windows DNA and Microsoft .NET framework. Develop and integrate windows based clients for Midrange, Mainframe and ERP applications. Convert, enhance and migrate windows based applications.

Competitive wages, 40 hrs/week, Bachelors degree and 2 yrs experience required for all 4 openings, please send resume to Broadfusion Inc., 12 ½ Pike St., Augusta, ME 04330

POSITION DESCRIPTION: Design, implement, Test complex financial software applications using C++, Java, J2EE Technologies and application server platforms. Analyze and user needs, develop software solutions and products using n-tier design concepts which are portable across multiple platforms. Define and develop enhancements to existing products, applications and solutions. Define and capture requirement analysis and design using UML diagrams. Use Application Architectural patterns, frameworks, user interface design, web design concepts. Reqs Master's degree in Engineering, Business, Math, or related field or Bachelor's degree plus 5 years of relevant experience or equivalent. Skills must include C++, Java, J2EE, WebLogic or WebSphere Application Server, UML, Object-Oriented Technologies and SQL. Available to work in unanticipated sites throughout the United States. Interview: Merrimack, NH. Job site: Merrimack, New Hampshire and various sites throughout the US. $60,668/year. 40 hours/week. Application by resume only. Send 2 copies of resumes/letters to Job Order # 2005-833, P.O. Box 969, Concord, NH 03302-0969

PROG ANALYST - SYS ADMIN

Install, configure & troubleshoot: Solaris, AIX & Linux operating sys; WebSphere & WebLogic appln servers, iPlanet, Sunone & Apache web servers, software like NDM, Autosys, Veritas Netbackup & Volume Mgr, Introscope & RSA Keon Config & maintain storage area networking using McData switches. BS degree in Comp. Sci., Electrical or Electronics Engnrg + 5 yrs exp. In job offered or in Sys. Admin. Software Engnrg reqd. Exp. must incl Solaris & AIX operating sys, WebSphere & WebLogic appln server & Sunone WebServer & Veritas Netbackup. High mobility preferred. 40 hrs/wk, OT as reqd, 8am - 5pm, $66,730/yr. Submit resume to: Site Administrator, Greene County CareerLink, 4 West High Street, Waynesburg, PA 15370-1324. Refer to Job Order No. WEB 483814

PROG ANALYST - JAVA SUPPORT &SYS

Provide infrastructure sys support on Java technologies like WebLogic & WebSphere in J2EE on Solaris/AIX/Linux platforms. Dsgn/implmnt hardware & software for Java appln servers. Deploy dvlpd frameworks to support a major financial appln. BS in Comp. Sci., Electrical or Electronics Engnrg + 2 yrs exp. in job offered or in Java Sys. Support Software Engnrg reqd. Exp. must incl. WebLogic, WebSphere, J2EE & Service Oriented Architecture. Solaris/AIX/Linux platforms, ClearCase & Introscope. High mobility preferred. 40 hrs/wk, OT as reqd, 8am - 5pm, $66,730/yr. Submit resume to: Site Administrator, Greene County CareerLink, 4 West High Street, Waynesburg, PA 15370-1324. Refer to Job Order No. WEB 484636

PROG ANALYST - BUS ANALYSIS

Analyze bus. reqmnts, process mapping, process reengineering, project mgmt & decision support sys. for web & client-server apptns & enterprise Resource Planning products for credit card & insurance industry apptns. Collect & document functional specs, workflows, bus. rules & use cases. MS in MIS, Comp. Sci., Electrical or Electronics Engnrg + 2 yrs exp. in job offered or in Bus. Analysis Software Engnrg reqd. Exp. must incl. Vantage-One software, Kondor risk mgmt suite, use cases & RUP. High mobility preferred. 40 hrs/wk, OT as reqd, 8am - 5pm, $66,730/yr. Submit resume to: Manager, Butler County CareerLink, Pullman Commerce Center, 112 Hollywood Drive, Suite 101, Butler, PA 16001-5699. Refer to Job Order No. WEB 484226

ENGINEERING

Job opportunities in Andover, MA: Staff Engineer (CP010501).

Submit resume to Broadcom Corporation via www.broadcom.com (MUST REFERENCE CP CODE).

Software Engineer (Applications) (National Placement - 2 Positions) Develop, create and modify computer applications software for clients, analyze user needs and provide solutions design architect customized software modules and applications with the aim of optimizing operational efficiency. Must have Bachelor's Degree in Engineering or Computer Science and five years of related experience. Position 1 requires Senior Developer with experience in Java/J2EE, XML, XSL, Oracle 8i, DB2, EJB, Websphere, and WSAD. Position 2 requires a Mainframe Programmer with a minimum of two (2) years working with State Government Unemployment Insurance Systems that includes experience in COBOL, CICS, JCL, REXX, DB2, and IMS. $70,900/yr. 40 hrs/wk, 8a - 6p. Send resumes, listing Job Order # WEB483546 to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957

Programmer/Analyst (multiple positions) needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include: Analyze, design, and develop computer applications for clients located throughout the U.S. Modify and upgrade EDI systems. Work with Gentran systems and Oracle databases. Use J2EE technologies involved in data warehousing projects. Use Cognos. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 1 yr. exp. in the job duties described above or in any computer related occupation which must include the skills listed above. 40hrs/wk, 8am-5pm, M-F. $80,000/yr. Send resumes to Job No. 30284, P.O. Box 488, Montpelier, VT 05601-0488.

Software Engineers: BS or equiv. (Comp. Sci. or related discipline) & 5 yrs IT work exp. Dvlp, create, modify & prgm complex systems appl. Provide functional & empirical analysis, define business & systems reqmts related to dvlpmt & implmtn of automated info. systems. Provide appl. prgmg support, create systems & user manuals. Work w/ Oracle, EJB, SQL, Java, J2EE & VB. Send resume, ref & salary req. to: OCR Services, 557 W. Uwchlan Ave, Ste 240, Exton, PA 19341

BCCUSA, Inc. - South Portland, ME needs experienced Programmer Analyst having a Bachelors degree with min 2 years of progressive Technical/Functional work exp in Oracle 11i ERP (AR, GL, AP, OM, PA, INV, BOM, EDI), System Administration, ADI, and OM APIs. Should have experience in Creation of New Forms, Customization of existing forms through custom.pll, Creation of new reports and customization of existing reports. Exp in Oracle 9i/8i, Unix Scripts and PERL is desired. Competitive salary and benefits. M-F, 40 hours/week. Please mail your resume to BCC USA Inc., HR Department, 550 Main Street Suite201, South Portland, ME - 04106

Programmer/Analyst (multiple positions) needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include: Provide technology development solutions for middleware applications and integration of various legacy software with business applications like SAP, MQSeries, MS Integrator, Java and WebSphere Application Server. Perform work as part of a team. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 1 yr. exp. in the job duties described above or in any computer related occupation which must include: 1 yr. of exp. w/MQ Series applications and tools and a min. of 3 mos. With the specific skill sets listed above. 40hrs/wk, 8am-5pm, M-F, $65,000/yr. Send resumes to: Job No. 30294, P.O. Box 488, Montpelier, VT 05601-0488.

Programmer/Analyst -(multiple positions) needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include: Analyze, design, develop and implement computer applications for clients located throughout the U.S. Develop Java based applications using ATG Dynamo on a Webasphere Application server. Use Rational Rose, SQL, PL/SQL, and DB2. Perform work as part of a team under direct supervision. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 6 mos. exp. in the job duties described above or in any computer related occupation which includes the skills listed above. 40hrs/wk, 8am-5pm, M-F, $65,000/yr. Send resumes to: Job No. 30301, P.O. Box 488, Montpelier, VT 05601-0488.

SVAPTECH SYSTEM INC.
Software Engineer

40hrs per week, 9am-5pm, $80,000 per year. Requires a Master Degree in Science or Computer Science. Must have 2 years exp. in job offered. Duties: Analyze, design, develop and test software applications in conjunction w/hardware using languages like C, C++, Java, SQL, PL/SQL. Shell on Unix. Program Database applications in Oracle. Program user interfaces. Perform IPC & network programming, enhance and fix bugs in existing software. Analyze software requirements to determine feasibility of time & cost. Job to be performed at Melbourne, FL. Send resume to Agency for Workforce Innovation, P.O. Box 10869, Tallahassee, FL 32302-JOFL# 2589139.

Seeking qualified applicants for the following positions in Miami, FL: Senior Process Improvement Systems Analyst. Design, develop and maintain databases and web-based reporting systems for operations process improvement functions. Requirements: Bachelor's degree* or equivalent in computer science, MIS or related field plus 5 years of experience in offered position or in data collection, statistics and data analysis. Experience with either SQL, Oracle or MS Access also required. Must be fluent in oral and written Spanish. 25% international travel required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Anne Garrett, Federal Express Corporation, 701 Waterford Way, Suite 1000, Miami, FL 33178. EOE M/F/D/V.

Seeking qualified applicants for the following positions in Collierville, TN: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* or equivalent in computer science, MIS, applied mathematics, engineering or related field plus 5 years of experience in systems/applications development. Experience with J2EE, CORBA and database development also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Kamlesh Dhaliwal, FedEx Corporate Services, 101 N. Sepulveda Blvd., 3rd Floor, El Segundo, CA 90245. EOE M/F/D/V.

SYSTEMS SOFTWARE ENGINEER to provide on-site consultancy to analyze, design, develop and implement systems software in web architecture using Java, WebMethods and RDBMS, Oracle and WebSphere for distributed network systems in Unix and Windows environment. Require: Master in Computer Science/Electronics Engineering/Mathematical Science. Coursework must include Website Programming, Networking, Database Management and Software Engineering. 40% travel to client sites within the United States required. Competitive salary and benefits. 40-hours/week. Apply with resume to: Human Resource Manager, 4C Solutions, Inc., 1201 7th Street, East Moline, IL 61244.

Computer Asst. Mngrs needed. Seeking qual. candidates possessing MS/BS or equiv. and/or rel. work exp. Part of the req. rel. exp. must include 3 yrs. working w/ WebMethods and 1 yr. working w/ SAP. Exp. can be simult. Duties include: Design, dev. & analyze comp. soft. applic. & syst. Set guidelines & time frames & monitor various phases of projects. Work w/ WebMethods, SAP, C++, VC++, HTML, & XML. Fwd. res. & ref. to Hyundai Motor Manufacturing Alabama, 700 Hyundai Blvd., Montgomery, AL 36105.

Computer Asst. Mngrs. needed. Seeking qual. candidates possessing MS/BS or equiv. and/or rel. work exp. Part of the req. rel. exp. must include 3 yrs. working w/ WebMethods and 1 yr. working w/ SAP. Exp. can be simult. Duties include: Design, dev. & analyze comp. soft. applic. & syst. Set guidelines & time frames & monitor various phases of projects. Work w/ WebMethods, SAP, C++, VC++, HTML, & XML. Fwd. res. & ref. to Hyundai Motor Manufacturing Alabama, Attn: Lynne Zarra, 700 Hyundai Blvd., Montgomery, AL 36105.

Programmer Analyst

Design, develop, test & deploy IT solutions for B2B environment. Must have Bachelors Degree or foreign equiv. in Computer Science or Eng. in a related field & 2 yrs. exp. or 2 yrs. exp. in a related position w/ability to use: Java, Java Beans, UNIX, Tomcat, PL/SQL & Oracle. 40.0 hrs./wk. 9:00 AM - 6:00 PM. Applicants send cover letter and resume to: SRA Systems,1945 Cliff Valley Way, Suite 270, Atlanta, GA 30329, Attn: S. Srinivasan.

Quality Assurance Analyst (NJ) Eval & test new or modified s/ware prgms & s/ware dvlpmt procedures used to verify that prgms function accdg to business reqmts, functional specs & conformity w/establishment guidelines. Write, revise & verify test procedures for prgm dsgn & product eval to attain qlty of s/ware efficiently. Execute GUI, Functional, Integration, Regression & Performance test procedures on applics. Analyze test results for accuracy & continuity in s/ware & maintain reports. Bach in Comp Sci or Engg & 2 yrs exp in job offd reqd. Fax resume to HR at 201-295-7552.

Software Engineer (Java Architect - Applications) (National Placement) Experience in analysis, design, architecture, requirement gathering, development and maintenance of customized J2EE applications. Must have Bachelor's Degree in Information Technology or Computer Science or Electronics and minimum 8 years of related experience. Also should be BEA Certified in Java. Architect with Java/J2EE, JAXP, SAX, XML, Oracle, DB2, Weblogic Portal 8.1, LDAP. $85,000/yr, 40 hrs/wk, 9a - 6p. Send resumes, listing Job Order # WEB483531 to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957.

Software Engineers needed: MS or equiv. and/or rel. work exp. Exp. must incld. 1 yr. working w/Java, J2EE, & Oracle. Duties include: Research, Design, Develop & Implement complex systems appl. Provide functional & empirical analysis related to design, development, & implementation of automated information systems. Must be willing to travel to client sites & train users at various locations for different long & short term projects. Work w/C++, DBA, Unix, & Shell Scripts. Send resume, ref. and sal. req. to Business Integra, 7016 Mathew St., Greenbelt, MD 20770.

Websphere Administrators to configure, install and administer WebSphere Application Server, IIS, Nokia Wap Serve etc; create and manage the connection pools of the WebSphere and cluster; run kcm jobs in AIX to generate reports, analyze UML design patterns using Rational Rose; perform appl support in testing, identifying issues and tracking bugs and solving problems. Require BS or foreign equiv in CS/Computer Engg with 6 months exp in Websphere administration. Travel involved. F/T position. competitive salary. Resume to: HR, Konsiru Software Services, 333 Swanson Dr., Ste 124, Lawrenceville, GA 30043.

WebSphere/Unix Consultant (CCNA) needed at client sites to install, configure WebSphere Appl on SUN Solaris, AIX, Linux Enterprise server; troubleshoot WebSphere in Unix; manage & diagnose JDK/J2EE, IBM DB2, MQ, JMS related issues; manage diverse UNIX platforms (Solaris, AIX, Linux); manage, maintain Cisco routers, switches, firewall; support VPN; perform SSO & security implmtn w/Netegrity Siteminder. Resume to: Global Consultants, Attn: Hiremo, 25 Airport Rd., Morristown, NJ 07960.

Systems Analyst II--Newnan, GA--Req: B.S. Computer Sci., Info. Tech., or related field + 5 yrs. exp. w/Oracle Decision Support System design & development. To include 3 yrs. exp. w/Sotoman, HP-UX Unix, and e*Commerce. Must be Oracle Certified DBA & Oracle Certified Internet Application Developer. Exp. may be gained concurrently. May also hold a M.S. Computer Sci., Info. Tech., or related field & 3 yrs. of above experience. Resumes to: Ms. Kim Bunch, Job Reference #PR04-2005, Yokogawa Corporation of America, 2 Dart Road, Newnan, Georgia 30265.

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Software Engineer to design, develop, implement and maintain complex web-based e-commerce and enterprise application integration software in a client/server environment using C, C++ PL/SQL EJB, JSP/ Servelets, XML, HTML Visual Interdev VB 6.0 WebSphere 5.0, WebLogic, Oracle under Windows NT/2000 Unix, and Linux operating systems. Utilize third party workflow products for business process automation. Require M S degree in Computer Science or a closely related field with two years of experience in the job offered or as a Programmer/Analyst. Extensive travel on assignments to various client sites within the U S as required. Competitive salary offered. Send resume to Vishy Dasan, President, Objectnet Technologies, Inc., 1117 Perimeter Center West, # E-104 Atlanta, GA 30338, Attn: Job SC

Sr Programmer/Analyst to Analyze, design, test, implement maintain and support web-based application, decision support systems in a client/server environment using Oracle8+ DBA, Tools, C, C++ D2K, JAVA, Express Server, Oracle applications on Solaris, Windows NT and AIX Platforms. Require: BS Degree in Computer Science, an Engineering discipline, or a closely related field with 5 years of progressively responsible experience in the job offered or in the related occupation of Oracle Products Analyst or Database Administrator. Extensive travel on assignments to various client sites within the US is required. Salary $75,000.00 per year. Apply by resume to Ravi Kandimalla, President, Everest Computers, Inc. 875 Old Roswell Road, Suite E 400, Roswell, GA 30076 Attn: JobJAK.

Programmer Analyst - Develop, create, modify computer syst/ apps software & specialized utility programs. Analyze, design databases within an application area, analyze user needs, develop software solutions using Graphical User Interface (GUI). Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad study & 3 yrs exp as a computer professional in lieu of Bachelor's degree. Degree must be in CS/CA or Eng. Must have 1 yr exp. using Oracle, Unix, or Windows 2000 and 2 of the following: Visual C++, C, C++, Crystal Reports, Visual Basic. Extensive travel, frequent relocation. $68,550/yr. 40 hrs/wk. EEO/AA/M/F/V/H. Submit resumes to Site Administrator, Greene County CareerLink, 4 West High Street, Waynesburg, PA 15370-1324. Job Order No. WEB483336.

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IT careers

Programmer Analyst - Oracle Specialist - Multiple Openings

Structured systems analysis, design, development, testing, quality assurance, implementation, integration, maintenance and support of large volume on-line complex integrated client-server based business, financial banking manufacturing and other commercial application systems in a multi-hardware/ multi-software environment using centralized or distributed database systems using Oracle Relational Database Management Systems (RDBMS) and related software. Design of large application systems and data bases in a Co-operative Development Environment (CDE) and analyse, design and development of applications using CASE (Computer Aided Software Engineering) tools. Bachelor's Degree (or equivalent) in Computer Science-Math/Engineering/Science/Business-Commerce and 1 yr experience in job offered or as Software Engineer/Systems Analyst are required. Must have appropriate combination of skills as follows: 1 of A and 3 of B, or 2 of A and 2 of B. A) includes Oracle RDBMS, Oracle CASE tools (Designer, Dictionary, Generator), CDE 2, Oracle Financials. B) includes Pro*C, SQL*Forms, SQL*Reportwriter, SQL*Plus, SQL*Menu, PL/SQL. High mobility preferred. 40 hrs/week. B are - 5 pm. $66,533 - $79,000 per year. Qualified applicants should contact or send resume to: Site Manager, Armstrong County CareerLink, 1270 North Water Street, PO Box 759, Kittanning, PA 16201-0759. Refer to Job Order #WEB 484962.

Computer Notes Mail Architect, Boulder, CO. Architect and support the Lotus Notes email environment, lead user migrations, test and implement Lotus Notes software, and select, implement, and support the antivirus solution for Lotus Notes email servers utilizing Lotus Smartsuite, Visio, Trend Scanmail for Lotus Note, Turbogold replication acceleration software for Lotus Notes, Norton Antivirus, and Symantec Desktop Firewall in the AIX and Windows 98/2000/NT/XP operating systems. Requires Bachelor's Degree or equivalent in Computer Science, Management Information Systems or Engineering plus two (2) years of experience in the job offered or two (2) years of experience in related occupation Lotus Notes or Information Systems Specialist. Employer will accept four (4) years of experience in the Information Technology field. $83,347.30 per year. 40 hours per week 8:00am-5:00pm. Mail Resumes to: Workforce Development Programs, P.O. Box 46547, Denver CO 80202. Job Order #CO5100613. Applicants must have proof of eligibility to work in the United States.

Software Engineer (Applications & Quality Assurance) (National Placement - Multiple Openings) Develop, create and modify computer applications software for clients. Analyze user needs and provide solutions; design, architect customized software modules and applications with the aim of optimizing operational efficiency. Must have at least five (5) years of experience in development using object oriented programming. Applications must include J2EE Technologies; Oracle Database Structures; Websphere; Weblogic. Must have at least three (3) years of Quality Assurance Experience. Experience with QA Tools must include: Winrunner; Loadrunner; Test Director; Silktest. Must have at least a Bachelor degree in Computers or Engineering or its equivalent and five (5) years of experience in Information Technology $70,000/yr. 40 hrs/ wk, 8a - 4p. Send resumes, listing Job Order # WEB483556 to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957

Programmer Analyst (Micro/Web) - Multiple Openings

Structured systems analysis, design, development, testing, quality assurance, implementation, integration, maintenance and support of integrated client-server based systems for business, financial, banking, manufacturing and other commercial business application systems in a multi-hardware/multi-software environment using centralized or distributed relational database management systems. 4GLs (Fourth Generation Languages) and other GUI (Graphical User Interface) front-end tools. Analysis, design and development of client-server applications using object-oriented methodology. Bachelor's Degree (or equivalent) in Computer Science-Math/Engineering/Science/Business-Commerce and 1 yr experience in job offered or as Software Engineer/Systems Analyst are required. Must have appropriate combination of skills as follows: 1 of A and 2 of B, or 2 of A and 1 of B, or 3 of A. A includes Oracle, Sybase, Informix, SQL Server, Progress, Ingres, Access and Proxy Server and B includes PowerBuilder, Visual Basic, MS-Windows, Visual C++, JAM, APT-SQL, SQL*FORMS, ESQL/C, GUPTA SQL, Progress 4GL, Informix 4GL, Ingres 4GL, C, Java, Lotus Notes, HTML, CGI, IIS, ASP, Front Page, Perl and Java Development Kit (JDK). High mobility preferred. 40 hrs/week. B are - 5 pm. $66,533 - $78,000 per year. Qualified applicants should contact or send resume to: BECS/CareerLink Program Supervisor, Indiana County CareerLink, 300 Indian Springs Road, Indiana, PA 15701. Refer to Job Order # WEB 484933.

Software Engineer (Temple Terrace, FL) Analyze, research, design and develop solutions to maintain broadband network data used to forecast and plan telecom network requirements for central offices; support FTTP program management; perform web programming; develop web-based reports and publish on-going results; coordinate functions between mechanized systems and input relationships; consult with internal engineering experts and external vendors to provide system maintenance and improvements. Requires Bachelors degree in Computer Science or employer will accept Bachelors degree equivalent based on a combination of education and/or training as determined by a professional evaluation service. Also requires either 2 years experience or job offered or 2 years experience designing solutions to maintain broadband network data used to forecast and plan telecom network requirements for central offices and supporting FTTP program management. Salary $75,000/ yr. Mon-Fri, 8AM-5PM, 40 hrs/ wk. Send resume to Workforce Program Support, P.O. Box 10699, Tallahassee, FL 32302-0699, refer to J.O. # FL-2590964

Programmer Analyst - Develop, create, modify computer syst/ apps software & specialized utility programs. Analyze, design databases within an application area, analyze user needs, develop software solutions using Mainframe and related software. Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad study & 3 yrs exp as computer professional in lieu of Bachelor's degree. Degree must be in CS/CA or Eng. Must have 1 yr exp using IBM Mainframes, Cobol, and MVS. Extensive travel, frequent relocation. $66,550/ yr. 40 hrs/wk. EEO/AA/M/F/V/H. Submit resumes to Fayette County CareerLink, ATTN: CareerLink Program Supervisor, 135 Waylan Smith Drive, Uniontown, PA 15401. Job Order No. WEB483337.

Programmer Analyst (Micro/Web) - Multiple Openings

Structured systems analysis, design, development, testing, quality assurance, implementation, integration, maintenance and support of integrated client-server based systems for business, financial, banking, manufacturing and other commercial business application systems in a multi-hardware/multi-software environment using centralized or distributed relational database management systems. 4GLs (Fourth Generation Languages) and other GUI (Graphical User Interface) front-end tools. Analysis, design and development of client-server applications using object-oriented methodology. Bachelor's Degree (or equivalent) in Computer Science-Math/Engineering/Science/Business-Commerce and 1 yr experience in job offered or as Software Engineer/Systems Analyst are required. Must have appropriate combination of skills as follows: 1 of A and 2 of B, or 2 of A and 1 of B, or 3 of A. A includes Oracle, Sybase, Informix, SQL Server, Progress, Ingres, Access and Proxy Server and B includes PowerBuilder, Visual Basic, MS-Windows, Visual C++, JAM, APT-SQL, SQL*FORMS, ESQL/C, GUPTA SQL, Progress 4GL, Informix 4GL, Ingres 4GL, C, Java, Lotus Notes, HTML, CGI, IIS, ASP, Front Page, Perl and Java Development Kit (JDK). High mobility preferred. 40 hrs/week. B are - 5 pm. $66,533 - $78,000 per year. Qualified applicants should contact or send resume to Fayette County CareerLink, ATTN: CareerLink Program Supervisor, 135 Waylan Smith Drive, Uniontown, PA 15401. Refer to Job Order # WEB 484975.

MAGNA INFOTECH, consulting company is looking for Programmer/Analysts, Software Consultants, and Software Engineers with experience in one or more of the following:
ERP/CRM: SAP, Baan Implementation Tools, Admin Peoplesoft, J D Edwards, Siebel
UNIX: C, C++ Shell AIX, HP-UX, Solaris Admin, Networking
AS/400: RPG/400, COBOL/400, CL, BPCS, JD Edwards, Synon
Mainframe: Cobol, CICS, DB2, JCL, Natural, Adabas
WINDOWS: VC++, VB, PB .NET, MFC, OLE/COM Admin, .NET Framework
REAL TIME: Microprocessor, RTOS Programming
INTERNET: Java, J2EE, JB, Javascript, CGI, Perl, WAP, Admin, Active X, ASP, Web Servers, like Web Sphere & Web Logic, Visual Studio, Web Server Admin
DATABASE: Oracle, Informix, Sybase, DB2 Admin Developer 2000 Designer 2000
Data Warehousing: Informatica, Cognos, Business Objects, OLAP, SAS

Sales Manager / Marketing Manager: must have at least 2 years of Sales experience, Bach. or Mast. degree and/or exp. may be req. and basic computer skills. Multiple positions exist at various sites across the US. Please mail your resume to: Recruit. Dept. Ref. #CW012-04, Magna Infotech Ltd., 1 Padanaram Rd., Ste. 208, Danbury, CT 06811-4833.

Multiple positions available for computer professionals including: Soft. Engs, P/As, Quality Analysts; Java Devs, Systems Analysts; Network Analysts, Systems Admins, DBAs; Applications Support Specialists, SW, Website & .NET Developers; software architects, etc. Locations vary. Reqs BS, BA, MS, or equiv. to relevant field. Travel/ frequent relocation required. E O E. Competitive salary & benefits. Resume to: J. Brigham, Allegis Group, HR, 7301 Parkway Drive, Hanover, MD 21076. MUST REFER TO Job No. 14353-EAQ.

Programmer Analyst (PeopleSoft Specialist) - Multiple Openings

Structured systems analysis, design, development, modification, testing, quality assurance, implementation, integration, maintenance and support of large volume online complex integrated client-server based financial and human resource management application systems in a multi-hardware/multi-software environment using centralized or distributed Relational Database Management Systems (RDBMS) such as DB2, Oracle, Sybase, SQL Server, SQL Base and related software. Bachelor's Degree (or equivalent) in Computer Science-Math/Engineering/Science/Business-Commerce and 1 yr. experience in job offered or as Programmer Analyst/Systems Analyst are required. Must have appropriate combination of skills as follows: 1 of A and 3 of B. A includes PeopleSoft Financials. PeopleSoft Human Resource Management and B includes PeopleTools, PeopleCode, SQR, Crystal Reports, COBOL. High mobility preferred. 40 hrs/week, 8 am - 5 pm. $66,533 - $78,000 per year. Qualified applicants should contact or send resume to PBECS/CareerLink Program Supervisor, Indiana County CareerLink, 300 Indian Springs Road, Indiana, PA 15701. Refer to Job Order # WEB 483249

Computer Scientist. Responsible for performing basic research in intelligent agent systems & applying the results to challenging real-world problems. Responsibilities will include managing maintenance & extension of existing BDI (Belief Desire Intention) agent software & leading research efforts in the area of robustness for agent systems. Requires PhD in computer science with doctoral research & dissertation emphasis in BDI agent systems plus five years experience in the application of BDI agent systems to real-world problems. Requires publication record in BDI systems. Background must include theoretical foundations of BDI agent systems; programming in Prolog, Python, Java, and Lisp; software engineering project leadership experience. This position is located in Menlo Park, CA. Please apply, indicating job# 2263, via our website @ www.sri.com or mailing address at 333 Ravenswood Ave, Menlo Park, CA 94025. Attn: Employment Dept. EOE/AA.

COMPUTERS – Ep Inc., a leading IT consulting firm with exciting job opportunities, is looking for IT professionals to add to its fast growing team. We have openings for Software Engineers, Programmer Analysts, Systems Analyst and, in particular, SAP professionals. Qualified candidates will have a bachelor's degree in computer science, science or engineering and/or relevant industry experience. Positions may req relocation to client sites throughout US. Send resumes to HR Manager, ea inc., 1130 Iron Point Rd. Ste 288, Folsom CA 95630

DESIGN ENG. - Design & modify integrated circuits. Req'd: BS in Eng. & 4 yrs. exp. in job/rel'd comp. eng'g job, exp w/ Apollo/Astro & Hercules, & extensive knowledge of UNIX. Resumes: SMSC, 80 Arkay Drive, Hauppauge, NY 11788. Attn P. Moore, Ref # 5260-0001.

Computer Scientist. Responsible for R&D of hardware & software formal verification framework. Duties include design & implementation of formal specification language, new automated verification algorithms, overall system infrastructure, perform research in formal methods area, write research papers & technical reports. This position requires Ph.D. in CS with doctoral dissertation emphasis in software engineering & formal methods for analysis & verification of software & hardware systems. Research background to include: design, implementation, use of model checkers, static analyzers, compilers, software verification, implementation & design skills including object technology, programming skills including C++, Scheme, Emacs-Lisp, & Java; working knowledge of automatic theorem proving & formal semantics of programming languages. This position is located in Menlo Park, CA. Please apply, indicating job# 2251, via our website @ www.sri.com or mailing address at 333 Ravenswood Ave, Menlo Park, CA 94025. Attn: Employment Dept. EOE/AA.

SOFTWARE ENGINEER to design, develop, test and document web_basedapplication software using Delphi, XML, C++, Java, Interbase, MS SQL, Oracle, HTML, COM/DCOM, ODBC, Crystal Reports, InstallShield and Rational ClearCase. Develop logical data/object oriented models using Rational Rose and other related modeling tools and technologies including Power Designer and S-Designer under Windows XP/2000/NT operating systems. Provide technical support to marketing team and end users. Mentor and supervise junior programmers and engineers. Require M.S. degree in Computer Science, an Engineering discipline, Mathematics, or a closely related field with 2 yrs of exp in the job offered or as Programmer/Analyst. Competitive salary offered. Apply by resume to Allen Y. Tien, Medical Decision Logic, Inc., 724 DulaneyValley Road, Suite 2, Towson, MD21204, Attn: Job SS.

Programmer Analyst - Develop, create, modify computer syst/apps software & specialized utility programs. Analyze, design databases within an application area. Analyze user needs, develop software solutions using Enterprise Resource Planning/related software. Bachelor's degree or foreign equiv. Will accept 3 yrs undergrad. study & 3 yrs exp as computer professional in lieu of Bachelor's degree. Degree must be in CS/CA, Eng., Chem, Math, Physics, or scientific/business field. Must have 1 yr exp using SAP, PeopleSoft, Oracle Appl/Finance/Manufctrg/HR. Extensive travel. Frequent relocation. $66,550/year. 40 hrs/wk. EEO/AAP/M/F/V/H. Submit resumes to Site Manager, Beaver County CareerLink, 2103 Ninth Avenue, Beaver Falls, PA 15010-3957. Job Order No. WEB483332.

Software Professionals: RS Software, a leading globally positioned software development and consulting firm needs programmer/analysts, willing to relocate at employer's expense to its multinational clients nationwide with exp. in the following skill areas: COBOL, CICS, DB2, SQL Server, Turbo Image, MPE-ix on HP3000 platform C, C++, VC++, MFC, Oracle and OOAD on embedded technology MVS, JCL, IMSDB Filenet, Xpeditor, C, C++, Unix, COBOL, CICS, DB2 and MQ Series on credit card applications. Send resume to: HR, RS Software (I) Ltd., 1900 McCarthy Blvd., #103, Milpitas, CA 95035.

COMPUTER SPL WorldGroup, Inc. has openings in San Francisco CA and various unanticipated sites throughout the U.S. for Software Engineers.

Responsibilities include analysis, configuration design, testing, and/or implementation of computer software using Java, UNIX, SQL, RDBMS and/or Cobol in a multi-tier software product environment. Requirements may include BS/BA or MS/MA or equivalent in CS, Engineering, Business, Math, Physics or related field and experience in analyzing, configuring, designing, testing and implementing cmp computer software using Java, UNIX, SQL, RDBMS and/or Cobol in a multi-tier software product environment as assignments may require (Consultant and other positions may require employer reimbursed travel.)

Send resume to SPL WorldGroup, Job Code 106 342, 525 Market Street, 33rd Floor, San Francisco CA 94105. SPL is an equal opportunity employer.

Personnel Manager (Technical) - Recruit, interview and select Information Technology professionals to fill vacant consultant positions, administer technical interviews of applicants, negotiate employment terms, including salary and benefits; ensure consultants achieve project goals, and arrange continuing education of consultants when necessary. Master's degree in Human Resources Management or Business Administration. Will accept foreign educational equivalent of a Master's degree in lieu of a U.S.-earned Master's degree. Must have 3 years of experience as a Personnel Manager (Technical) or in a field that requires technical resourcing. Extensive travel. $91,727/year. 40 hrs/wk. EEO/AAP/M/F/V/H. Submit resumes to Mon valley Regional Careerlink, Donora Industrial Park, 570 Gallifa Drive, Donora PA 15033-1385. Job Order No. WEB483656.

Junior Software Engineer to design, develop, implement, test, support and maintain web-based application software in a client/server environment using MySQL, C, C++, MS Access, Oracle, Java, Pascal, Visual Basic, HTML, DHTML, ASP, Java Script, Front Page, MS Office under MS-DOS and Windows 98/NT/2000/XP operating systems. Perform duties under close supervision of project manager to ensure accuracy and that project progresses according to prescribed instructions and expected results are met. Require M.S. degree in Computer Science or a closely related filed. Must have a demonstrated ability to perform stated duties gained through previous work experience and/or academic coursework/projects. Competitive salary offered. Send resume to Janet H. Horton, HR Manager, Benefit Funding Exchange, LLC, 1145 Sanctuary Parkway, Suite 335, Alpharetta, GA 30004. Job AP.

Customer Support Specialist: Provide technical assistance/support to engineers/researchers using Cree products (i.e. liquid crystal displays, LED and SiC wafers). Interpret problems, troubleshoot, and resolve application and performance issues via phone, email or in-person. Masters in Information Science or Engineering Management required plus fluency in Mandarin/Cantonese and English. Send resumes to: Cree, Inc., Human Resources, Attn: CSS position, 4600 Silicon Drive, Durham, NC 27703. No phone calls please. EOE/M/F/H/V.

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OneWorld

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Not only is extended OneWorld XE support crucial, but so is continued support for the older, green-screen World applications, said William Gabby, North American operations manager at agribusiness Cargill Inc.'s Global Financial Solutions business unit in Minnetonka, Minn.

Gabby said he's skeptical, based on Oracle's decision to stop actively marketing PeopleSoft applications in favor of the Oracle software. That move "leaves the current installed base concerned about the value of their investment," he said.

Ideally, Oracle will commit to the development, enhancement and marketing of World products as a new system and not as a cash cow, said Dave Hyzy, director of IT at Benderson Development Co., a real estate developer in Buffalo, N.Y. "Lacking that, I'd like to see Oracle announce the sale of World software, lock, stock and barrel to someone else," he said. **51790**

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"It's a classic problem with ERP systems — everything you do has a financial impact," said Bill Swanton, analyst at Boston-based AMR Research Inc. During conversion, data can be lost and "you end up with garbage," he added.

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That implementation, which was apparently still under way when the company's second quarter ended on Sept. 25, led to the reporting delays.

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The full costs of resolving the ERP and financial-reporting issues, including legal fees, could be as high as $2 million, the company said.

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TRANSACTION DETAILS

- Most PeopleSoft shareholders officially agreed to the Oracle acquisition on Dec. 13, 2004.
- Last week, Oracle garnered 97% of the shares. This means that PeopleSoft shareholders will not have to meet for a vote on the deal.
- On Jan. 14, Oracle plans to notify staffers of layoff plans.
- On Jan. 18, Oracle will formally launch the merged company with word of its plans for the unit.

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FRANK HAYES • FRANKLY SPEAKING

Ahoy There, User

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Better still, the new Navy policy shows signs of being a remarkably *sane* model for what users should do with IT, at least the way it's described by Robert J. Carey, the Navy's deputy CIO for policy and integration.

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After all, your users probably aren't military personnel. That means precious few of them are being shot at. It also means their sense of organizational mission is different. Your users aren't focused on defending their nation; they're more likely concerned with defending their budgets, jobs and retirement plans. This isn't an adventure — it's a job.

So if your company's culture is such that you really can't trust users to stay focused on the corporate mission, then a working principle like "Don't do it if it interferes with business" probably won't do much good. (If your users are that unfocused and untrustworthy, maybe you should be looking for a new place to work, not just a better appropriate-use policy.)

But chances are, most of your users stay focused on business most of the time. So having a simple, common-sense principle at the core of your acceptable-use policy will work fine.

Instead of long lists of what is and isn't acceptable — lists you're forever lengthening to close new loopholes — you'll have a few simple tests for non-work-related IT use. Is it illegal? Is it on company time? Does it interfere with business?

Those are tests that business-side managers can understand. Even your CEO can grasp them. Users who require micromanagement won't like this approach, but everyone else will get it. They can even enforce it themselves, so you don't have to play policy cop.

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FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

New Year, Same Old Users

User calls help desk to complain that her password just stopped working. Do you have a hint entered in the system? Tish asks. User does – her daughter's age. Tish: How old is she? User: "Seven." Tish: How old was she when you entered the password? User: "Six. But she just had her birthday!"

SHARK TANK

Aha!

"Are you controlling my computer?" user asks help desk pilot fish. No, says fish. He checks with other techs; no one else is using remote-control software to work on her PC, either. "Well, someone is," she says. "They're searching my files. They just found one! They opened it!" Fish tells her to turn off the PC, calms her down and asks what she was doing before the computer was apparently taken over. "I just installed this demo of Lotus Notes," user says, then stops. "Never mind."

This One's Going To Be Trouble

When irate user calls help desk to demand the manuals for his newly leased laptop, pilot fish patiently explains that they're in the zippered compartment on the outside back of the carrying case. "Dead silence on the phone," fish reports. "Then I hear the user frantically examining the bag. He finally comes back on and says, 'I can't find the outside zippered compartment.'"

Gratitude

The PC in this crowded cubicle freezes as it's booting, so support pilot fish unplugs everything and carts it to his bench for testing. Once there, it works. Back in the cube, it freezes again. On investigation, fish finds the PC boots with the keyboard disconnected. That's when fish notices the keyboard has been pushed slightly under the monitor – just enough to push down the Pause key. He adjusts the keyboard. The PC boots fine. "Well, I could have done that," user grumbles. "And a lot quicker, too."

Just Move It

This user's carpal tunnel syndrome is acting up, so she asks help desk pilot fish to change her mouse from right- to left-handed. "She watched while I went into the Control Panel to switch the buttons from right-handed to left-handed," says fish. "'No, no,' she said, 'don't change the buttons. Just make it a left-handed mouse.' I moved the mouse to the left side of her keyboard, and closed the ticket. She thought there was some sort of additional magic required."

I Hope Not

Pilot fish checks into a hotel and asks if it has wireless Internet access. Clerk: "Yes. Will you be needing to borrow a cable for that?"

LOAN SHARKY YOUR STORY. Send me your true tale of IT life at sharky@computerworld.com. You'll snag a snazzy Shark shirt if I use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at computerworld.com/sharky.

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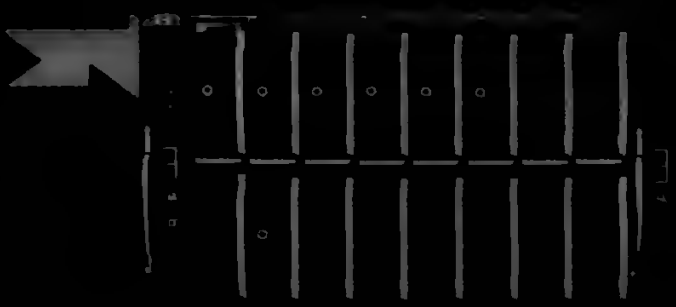

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HP ProLiant BL30p Blade Server

THE SOLUTION	THE BENEFITS[2]
• 2 Intel® Xeon™ Processors DP up to 3.20GHz/2MB[1] • High density: Up to 96 servers per rack • Flexible/Open: Integrates with existing infrastructure • HP Systems Insight Manager™: Web-based networked management through a single console • Rapid Deployment Pack: For ease of deployment and ongoing provisioning and reprovisioning	• 23% savings on acquisition cost • Up to 19% less power consumption • Up to 93% fewer cables • 43% less space needed for same processing power • Hot-swappable server design • Single interface for local and remote management of servers, storage, software and networking

Enhance your system.

HP StorageWorks MSA1500cs

- Up to 24TB of capacity (96 250GB SATA drives)
- Up to 16TB of capacity (56 300GB SCSI drives)
- Ability to mix SCSI and Serial ATA enclosures for greater flexibility
- 2GB/1GB Fibre connections to host

GET UP TO 2TB OF STORAGE FREE[4] (Save up to $3,192)

SAVE $500 INSTANTLY with the purchase of any HP BladeSystem enclosure.[3]

Contact HP today for a free IDC white paper: *Adapting to Change: Blade Systems Move into the Mainstream*

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1. Intel's numbering is not a measurement of higher performance. 2. Based on internal HP testing, compared to similarly configured HP1U. ZP server. For configurator, please visit: http://h30099.www3.hp.com/configurator/catalog-bsipc.asp. 3. Offer valid through 4/30/05. 4. Receive up to 2TB of storage free with purchase of select HP StorageWorks MSA1500 devices. Offer ends on 3/31/05. See Web site for full details. Intel, Intel logo, Intel Inside, Intel Inside Logo, Intel Centrino, Intel Centrino Logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.